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CASES AND PROBLEMS IN MARKETING RESEARCH

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PREFACE

The present volume has been prepared to meet the need for materials which will give practice in working with the problems encountered in marketing research. It is increasingly recognized that principles and methodology descriptively studied fail to prepare the student sufficiently to deal effectively with marketing research problems in the field. Too often the student is lost when he goes out into the business world and meets a problem necessitating original thinking and some use of research methodology; his background has done little to prepare him to handle problems under operating conditions. In this book are presented cases and problems designed to be used in conjunction with a basic textbook in the introductory course in marketing research. The student is faced with practical situations to which he can apply research techniques as soon as he has mastered them in theory.

The cases and problems have been carefully selected with this objective in mind. They provide all the necessary data and fill in the background material, both relevant and irrelevant. The student is then asked to resolve the problem, choosing for himself the method by which he will reach a solution. Above all else, the aim has been to encourage the student to think for himself—to take little for granted, to sort out what is useful from what is not, to examine all procedures critically, and to attempt to improvise new methods where existing ones prove inadequate.

The book is organized into nine divisions, each covering a major aspect of the research operation. Every division is prefaced by a discussion of several pages which surveys the operation in question and attempts to clarify selected issues which

tend to be troublesome to the student. Each of these discussions places the operation in its proper setting and shows how the cases presented in the section fit into the total process. These discussions will be valuable for review purposes where the book is used in a course in applied marketing research which follows a first course devoted to principles. They will also provide the basic minimum of text materials for those who use the book in an introductory course taught by the case method. A selected, annotated bibliography at the end of each part gives detailed references to further pertinent information in marketing research textbooks and other literature.

The cases included cover a variety of different areas, situations, and levels of difficulty. Their arrangement within a particular section has been determined both by considerations of logical order and by a desire to place the easier cases early in the section. Although most of the cases refer to separate situations, occasionally two or more cases have been used to trace the same problem through successive operations. This sometimes proves to be a more effective teaching method than continually taking up new situations.

In writing this book, the authors have had the privilege of obtaining case materials from a number of people and organizations. Among them are W. R. Spurlock, Director of Marketing Research, Eli Lilly and Company; the Bureau of Economic and Business Research of the University of Illinois; the Bureau of Business Management of the same University; Donald E. West, Director of Market Research, McCall Corporation, and Harry Rosten, Research Manager, *The New York Times*. There are also many others who, because of the nature of the material supplied, prefer to remain anonymous. To all of them, our sincere thanks and appreciation. We should also like to acknowledge a special debt of gratitude to Professor Lincoln Clark for his reading of the manuscript and for the many constructive suggestions he offered.

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CASES AND PROBLEMS IN MARKETING RESEARCH

Part I

FORMULATING THE PROBLEM

The Nature of the Task

Marketing researchers not only gather facts and attempt to provide solutions to problems, but also must formulate the problems themselves. Indeed, the research task in general may be characterized as being (1) to pin point problems, (2) to suggest possible explanations or solutions to them (these are called *hypotheses*), and (3) to test these explanations or solutions (or hypotheses). Each function may be of equal importance.

But what is a problem? It may be merely to characterize or measure marketing phenomena, as the number of customers for a firm, the nature and extent of certain activities of dealers, or the sales volume by type of outlet. Or a problem may be to identify the factors that influence the action or event (or phenomenon), as purchases made at trade shows, readership of trade journals, or the use of credit. Or a problem may be to find the relationship—if any—between two or more phenomena, as family size or income or geographical location and volume of consumption of a product. Thus, the researcher may be discovering what actually occurs, why it occurs, and what effect it has.

Sometimes problem formulation is easy. The problems may be simple and clear; the same, or very similar, problems may have been studied before; or much preliminary work may have been done by others. Often, however, the problem is new, or complex, or scantily described, or deceptive. Then the researcher faces one of his most interesting and challenging responsibilities: deciding what the problem is. Without a diagnosis, no sound course of treatment can be possible.

Problem formulation includes several separate, though related, aspects: a true understanding of the business situation; rephrasing into quantitative or operable terms; specific wording of possible explanations or solutions; looking ahead to the steps that will follow immediately; and deciding what, if any, research is needed.

Working Methods

Understanding the business situation which gives rise to the problem requires perspective. Much that has been learned in accounting, economics, marketing, and other fields is often called into play. For example, almost any question regarding profitability will involve considerations from the three fields noted. Attention to the environment of the specific issue—the policies and operations of the company or industry as well as the facts of the market place—is needed. Thus the researcher not only dissects what information is directly at hand when he begins, but also adds all that is relevant which his knowledge, experience, and imagination can supply.

A common working method to aid problem understanding is to write out all the possibilities which come to mind. This explodes the problem into many fields and stimulates thinking. Each of the possibilities can then be considered as to meaning and implications. (Case 4 illustrates this method.)

Rephrasing problems also adds understanding as well as providing needed precision. Indeed, as soon as one attempts to write out possibilities, he becomes aware of problems of terminology. “Jobber,” for example, may be synonymous with “wholesaler.” In a general discussion, this definition may appear sufficient. However, concrete expression of specific possibilities may reveal that in this particular case the company’s problem pertains to drop shipping (possession without physical handling). Here, the two terms are clearly not synonymous.

As another example, a client may claim interest in *all* aspects of the preferences of hotel guests regarding bathroom linens. But when this apparently simple question of “What are their preferences?” is rephrased into operationally meaningful ques-

tions, the list grows horrifyingly long. It soon is clear that not all preferences are important after all.

Consider, even, the implications of so simple a term as "customer." For a department store study this might be defined as any person purchasing at the store, or as any person using or consuming goods bought at the store, or as any person buying for credit, or as any person buying only at the one department store (in a given period of time), or as any person buying more at the one store than at any other, or in dozens of other ways. Yet each term when employed would yield different figures and facts useful in different ways to examine different aspects of patronage.

This is not to imply that the researcher avoids standard terminology. The use of such terminology is invariably an integral part of a study. It must be recognized, however, that in a real sense the researcher creates facts (whether numbers, percentages, or otherwise) by the way he defines his terms. Only careful definition will reveal the heart of the specific problem. Again the common working method is to write out possibilities, to discuss them with others, and to test their usefulness.

As already suggested, writing out possible solutions or explanations to problems gives scope and direction to the research. The problem may be one of high, and rising, sales costs. The possible solutions may include: rerouting salesmen, broadening the product line, or improving dealer relations. Which are supported by the information available? (And, of course, there are such related questions as: what types of rerouting, what aspects of dealer relationships, and so forth.) More necessary than they may seem, more difficult than they appear, these hypotheses establish the nature and extent of the research that will follow.

As the doctor detects some symptoms readily but must seek for others by questioning the patient or examining him, so, too, the researcher may diagnose some aspects at once but needs to go further. What persons will he want to see and what questions should be asked? Where can he find clarifications for some issues, in what records or books, and how can various possibilities be pursued? Certain formulations of the problem

immediately suggest company data; others obviously call for interviews. Thus problem formulation leads to the steps which follow. Already some plans begin to take form because they are inherent in the situations being considered in the search for *the* problem.

This preliminary formulation may reveal that there really is no problem, or that it is far different from what was anticipated at first. Formulation, therefore, is no mere logical or literary job; it is an exploration of business possibilities and of the data available.

Work procedures at this stage are governed largely by the specific manner in which the problem has arisen and the nature of the business situation involved. Among more or less mechanical methods that are commonly used in this stage of research are, as noted above, the written expression of ideas and possible explanations, and the full discussion of them with other members of the research staff. An essential step is to break problems into the smallest possible pieces for clearer examination. Related ideas can then be added and different ideas can be cross-related. Out of this expression, division, reassembly, and selection comes the concrete (but still preliminary) formulation.

Special Difficulties

The lack of well-developed processes or techniques for problem formulation, as is common to other stages of marketing research, is a grave difficulty, especially for the beginner. Fortunately, an active, curious mind can do much to overcome this deficiency.

The greatest difficulty, perhaps, is that this stage of research has no specific boundaries. Without some knowledge and data, only crude and probably faulty formulations are possible. The researcher already has talked to some members of his company or read their statements (or met with the client), so that to some extent he is already engaged in the internal analysis or situation analysis. He probably has moved ahead to some consideration of methods of gathering data. In fact, to a considerable extent he must already have envisioned the end results at

the very beginning. For these reasons not all researchers recognize problem formulation as a separate and distinct phase of marketing research, and not all of those who do place it as the first step. However, at least for learning purposes, it seems important to segregate these functions as sharply, as clearly, and as early as possible.

The Cases in This Part

Some of the cases which follow are intended to represent situations as actually faced when available information is scanty, the problem not clear, and the need for research not certain. Consideration of these may lead mostly to determination of logical next steps, or of sources and types of information needed. The challenge is to analyze and use what facts are available and to carry problem formulation as far as possible. Although the recurring cry for more data will be sounded, it is well to learn early that masses of data alone seldom solve problems. The information needed is not just any information, but specific kinds based on the investigation of that already at hand. The cases should arouse curiosity, reveal the benefits of general knowledge, and indicate the first order of research problems faced.

Cases 1 through 3 are of this type. Case 1, "What Sales Methods to Use?" reveals a common marketing problem in the somewhat unusual setting of seed corn distribution. Case 2, "Sales Organization Plans," presents a similar problem of a manufacturer of fluorescent lighting fixtures. Case 3, "Marketing a New Product," represents a borderline situation regarding the need for research and the usefulness of available information.

Other cases relate to situations in which more information was available to the researchers and in which problem formulation had been partially completed. These cases provide opportunities for careful formulation of hypotheses and rephrasings of original statements. Case 4, "A Local Market Study," describes the origins of a broad study in which problems have been specified in some detail by members of the luggage manufacturers' trade association. Case 5, "Is the New Branch Store

Profitable?" presents tentative formulations made by the researchers and thus, as a first reading, may provide vicarious experience in problem formulation.

The other two cases in this part represent special situations. Case 6, "A Survey Proposal," resembles both Case 4 in breadth and the earlier cases in scarcity of data, but raises the new problem of tailoring a dehydrated foods study to meet different interests. Case 7, "A Distribution Cost Study," serves to introduce the problem of applying these special techniques to the situation of a service wholesaler.

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Part I Cases

CASE I—WHAT SALES METHODS TO USE?

BACKGROUND

By the summer of 1952, the Central-Illinois Seed Company was selling a substantial volume of seed corn to farmers of Illinois, Iowa, and Indiana. Although not considered one of the big seed corn companies of Illinois, it had been growing continuously since it was founded about ten years before. The use of modern methods of growing and processing made it possible for the company to compete on a very favorable basis with other concerns in the business.

The hybrid seed corn companies employed an unusual distribution plan. Farmers who were looked upon as leaders in their communities were usually given dealer contracts. These farmers, who generally turned out to be financially independent of any income received from outside activities, served as dealers and sold to other farmers during their off-hours.

The general sales manager of the Central-Illinois Seed Company, Mr. Lupton, had divided the states of Iowa, Illinois, and Indiana into 12 districts with a district sales manager over each territory. Each district sales manager supervised from seventy to one hundred twenty local farmer-dealers. The district sales manager sought to obtain productive farmer-dealers and to stimulate them to sell as much seed corn as possible.

The selling season starts in the spring between March 15 and April 15, when the seed corn, ordered the previous year, is delivered. When the corn is delivered, the farmer-dealer can frequently get the farmer to commit himself for the coming year for the largest part of his requirements. About 70 per cent of seed corn is sold before January 1 for delivery three to four

months later. The other 30 per cent is sold between January 1 and delivery time.

In a few cases, district sales managers had obtained good sales results from feed and seed stores. The major hybrid seed corn companies, nonetheless, continued to use farmer-dealers. Since the practice was firmly entrenched, there seemed little reason to depart from it.

THE PROBLEM

The general sales manager put the problem in this form: "What can be done to help farmer-dealers to get more product knowledge, to make more calls, and to sell prospects properly?" His main goal was to build up sales volume; but he was uncertain as to whether to attempt this through regular channels or through a new method of distribution.

DATA AVAILABLE

Little published information being available, information would have to be assembled from primary sources.

QUESTIONS TO BE ANSWERED

1. Is the sales manager's formulation of the problem susceptible to research?
2. Is the problem to find out the relationship of the farmer-dealers' product knowledge and their sales?
3. Is the problem to uncover the number and nature of the calls made by farmer-dealers?
4. Before final formulation of the problem, will it be necessary to take into consideration the reactions of farmers to sales arguments for the use of hybrid seed corn?
5. Is the attitude of farmers toward different seeds, alternative sources of supply, or other matters important to the problem?

CASE 2—SALES ORGANIZATION PLANS

BACKGROUND

The Great Lakes Manufacturing Company makes fluorescent lighting fixtures for residential, industrial, commercial, and

institutional installations. Because of the nature of the industry, it contains essentially three types of firms, which operate at different competitive levels. The differences are based mostly on the marketing functions performed and distribution methods used by individual manufacturers. The first group of firms can be described as selling to exclusive electrical wholesalers in each area; their sales generally include the highest priced lighting fixtures. The second group sells to any electrical wholesalers who maintain fixture stocks, and the third group sells not only to any wholesaler in any quantity, but also directly to contractors and consumers. The Great Lakes Manufacturing Company has a distribution plan that puts it into the second group.

The Great Lakes Company does not seek contracts on large industrial installations, but secures some business from large remodeling jobs. The major portion of its business comes from smaller installations, including over-the-counter sales by wholesalers.

The present sales staff includes four men who sell exclusively for Great Lakes. In addition, fifteen manufacturers' representatives are utilized. Each group attempts to reach architects and construction engineers who must be persuaded to include Great Lakes fixtures in their specifications. Electrical contractors are also called upon with the same purpose in mind—that of recommending the installation of Great Lakes fixtures to builders. In addition to these calls upon technical personnel, representatives also reach electrical wholesalers who sell to each of these groups.

Still another important group, composed of lighting consultants of public utility companies, is reached by sales personnel. These consultants are frequently asked to make recommendations to customers who are planning to construct new buildings, remodel old ones, or make repairs.

In order to reach its customers, the company has divided the United States into eighteen sales territories. On the average, the salesmen make about sixty calls a week in these territories. In 1951 they accounted for a total sales volume of approximately \$1,500,000.

THE PROBLEM

The company feels that it would be better for the sales organization if the manufacturers' agents were replaced by full-time company salesmen.

In exploring the possibility, the personnel manager has put classified ads in newspapers and trade journals. Employment agencies have also been utilized. In spite of all this effort, the results, in so far as obtaining qualified sales personnel is concerned, have not been too satisfactory. The personnel man reported that one agency had sent a number of men who were below his standards and another had sent men who were above his standards. Out of seventy-five interviews, he had found only two men who he felt were desirable enough to be offered a contract for employment.

A very limited amount of sales training is given the new salesmen. The sales manager is of the opinion that the average salesman can learn all he needs to know in one week. Therefore, he concludes that the main job of a salesman in his company is that of knowing the products and customers of the company. In keeping with this idea, he likes to have salesmen make friends with their customers and prospects from the start.

Compensation of the salesmen is a combination of a commission with a guarantee. For good salesmen, earnings can be as much as \$30,000 a year.

QUESTIONS TO BE ANSWERED

1. What is the key problem and how can it be formulated?
2. Is research needed?

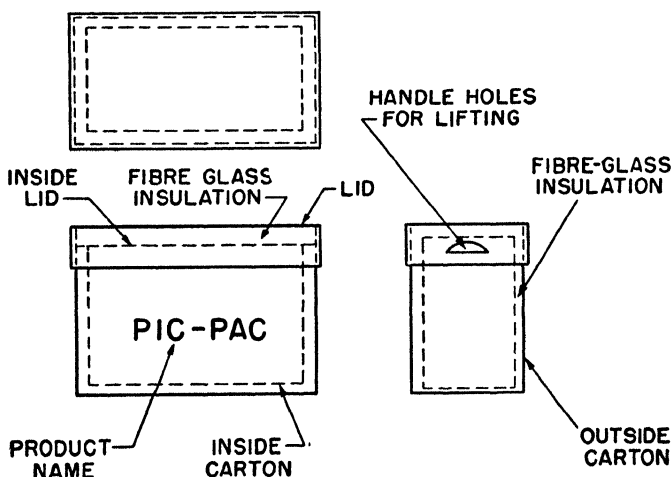
CASE 3—MARKETING A NEW PRODUCT

BACKGROUND

In April, 1950, a concern that had been making devices used by doctors in the treatment of certain physical handicaps decided to branch out its manufacturing operations. The decision grew out of a desire not only to increase the profitability of the

business, but also to utilize one of the wasted by-products of its principal manufacturing operation. The waste material was scrap leather which could be cut into small strips about $\frac{3}{4}$ inch in width and 3 to 4 inches in length.

The company used heavy packing cartons, made of strawboard, for shipping the product to customers. By chance, it occurred to the owner of the business that these packing cartons could be impregnated with wax, thereby producing a waterproof container. After some experiment, he developed an impregnated container that was insulated with fiber glass and that could be used to keep foods either hot or cold over long periods of time. Handles for the container were made from the scrap leather. Detailed sketches of this insulated box, called "Pic-Pac," are given below.



The major product line of the company, the medical devices, was distributed directly to drugstores and medical supply houses, and by mail order directly to users. It therefore seemed that some of these outlets might be employed in the distribution of the Pic-Pac to consumers. The reasoning of the owner of the company was that this insulated carton could be used by consumers to pack picnic lunches (the name of the product sug-

gests this) and as a container for cooling bottled or canned beverages. Hence, drugstores might be used as middlemen for distributing this product. In addition, since the carton could be shipped in knockdown form and assembled easily by the consumer, it seemed that a profitable mail-order business might be developed.

The retail price of the item was set arbitrarily at \$1.98. This price was justified on the basis of the carton's durability and convenience in cooling and preserving picnic foods, beverages, fruit, and game.

THE PROBLEM

The owner of the business presented his problem to an advertising agency for consideration. He wanted to know what channels and, particularly, what advertising media would be most suitable for marketing his Pic-Pac. It was his opinion that mail order would offer the most economical means of putting his product on the market, and he, therefore, thought that the advertising agency might help him market Pic-Pac through this channel of distribution.

AVAILABLE DATA

No published data were available on the sale of this or similar products. At that time, several insulated containers of a similar nature were on the market, manufactured by metal products companies, selling from \$6.95 to \$15.00. All of them made use of light-weight metals instead of strawboard as the container material. They were marketed primarily through retail outlets—department stores, drugstores, and sporting-goods stores, with some supplementary distribution through mail-order sales.

ACTION NEEDED

1. How can available information be used?
2. For what specific problems is research needed and how can these problems be formulated?

CASE 4—A LOCAL MARKET STUDY

BACKGROUND

The Luggage Manufacturers' Association is a trade association whose primary efforts in marketing research have been directed toward gathering production and sales data from members and seeking standardization in the field. A slump in industry sales plus the urging of the executive secretary has led to the consideration of a market survey.

THE PROBLEM

No study of consumer purchase or use of luggage has ever been made. The suggestion that a local market study would be most economical for the Association has met with favor. Finally, a research group in a large eastern city has been approached. The Association has requested that the study be a broad one, including such areas as consumer use and purchase habits, consumer preferences for prices and styles, and consumer buying intentions. The study is expected to prove useful to individual manufacturers in designing, promoting, distributing, and selling their lines of luggage.

QUESTIONS RECOMMENDED

The researchers, during negotiations, had requested that the directors of the Association, or some representative group of members, be asked to state specifically the information they desired. The executive secretary thereafter canvassed members and obtained this list of questions:

1. What does the consumer look for when purchasing luggage?
2. Does the consumer prefer leather luggage to striped, canvas-covered luggage?
3. Does the consumer look for styling in luggage?
4. Do female consumers prefer bright colors within and on the outside of luggage?
5. What kind of luggage does the male consumer prefer?

6. How often does the consumer use his luggage?
7. How old is his present luggage?
8. How often does the consumer travel?
9. What care does he give his luggage when not in use?
10. Where does the consumer store his luggage?
11. Did he buy his luggage or receive it as a gift?
12. Does the consumer purchase luggage for gifts?
13. Does the consumer know whether the luggage he now possesses differs in style and convenience from that which is at present being made and sold?
14. Is the consumer in the market for new luggage? If not, how soon will he be in the market?
15. If the consumer is not considering the purchase of new luggage now, would he buy if he were aware that the luggage made today has better style and is more serviceable?
16. When purchasing luggage, does the consumer have a definite price range in mind?
17. Does the price determine the luggage which is eventually purchased, regardless of its type or serviceability?

INFORMATION AVAILABLE

Luggage is a highly variable product. Many materials including various leathers, plastics, aluminum, various cloths (such as canvas, duck, cotton, and linen), and paper are used alone or to cover plywood boxes. Luggage may be lined, as with linen, cotton, or silk, in various designs and colors, or it may be unlined. Colored luggage has been increasing in popularity. Prices vary from \$1 to well over \$100. Types range all the way from hat and shoe boxes to large pullman cases with trays. Men's luggage includes overnight bags, fortnighters, one-suiters, two-suiters, folding suit bags, valises, suitcases, sports-style bags, foot lockers, and even brief cases. Women's luggage includes overnight cases, train cases, bus cases, hat and shoe boxes, wardrobe hanger cases, and vanity boxes. Moreover, these names are not always used in the same way, and nearly every type comes in varying sizes. Many trade names are used. Such terms as "Gladstone" and "airplane luggage" have various meanings to

the industry, to the retailers, and to the public. Matched sets have been given considerable promotion in recent years.

Distribution is mainly through wholesalers, although many manufacturers sell directly to retailers. Outlets include luggage and leather goods stores, jewelry stores, department stores, men's wear specialty shops, variety stores, sporting-goods stores, and pawn shops. During the war a large volume went through military outlets.

ACTION NEEDED

1. What is the problem here? How can the questions furnished and the information on hand be utilized to formulate the problem?
2. What really is meant by each of the questions supplied? How important is each?
3. In what ways would answers to the questions be useful?
4. Have any important questions of consumer use and preference or purchasing behavior been omitted?
5. How can the questions be grouped or classified?

CASE 5—IS THE NEW BRANCH STORE PROFITABLE?

BACKGROUND

The Boris Department Store is a large department store in an Eastern metropolitan area. Located in the central shopping district, the store does about \$50 million annual volume. Almost half of this business comes from residents of the city. The balance is spread over fifteen surrounding counties, except for a few hundred thousand dollars of sales widely scattered over the rest of the country and the world.

The store has been approached by the landlord of a property in a large secondary shopping center. This shopping center, known as the Ransom shopping district, is located in a heavily populated suburban area which has been growing steadily. The landlord was dissatisfied with the low volume of business done on his property by the branch store of another, but con-

siderably smaller, department store in the city; the lease called for rental payments consisting of a guaranteed minimum plus an additional sum determined by gross sales. The landlord offered the lease to the Boris Department Store.

Before purchasing the lease the store had its research staff make an estimate of probable volume of sales. A research agency also had been hired to make a consumer survey in the Ransom district trading area. This study analyzed the attitudes of consumers toward Ransom district and city stores, their preferences for places to shop, their use of transportation facilities, their ages, and many other aspects of their buying habits. The study was primarily intended to aid in determining what type of operations would be best suited to the market.

The estimate made was that over \$4 million in sales could be expected in the first year and more than \$6 million per year after five years. The previous tenant was doing approximately \$1,500,000 annually.

The lease was purchased. After modernizing and air conditioning the sales floors, the store opened in October.

THE PROBLEM

At the end of the first year of branch operation, net sales were \$4,500,000, or three times the volume previously done on the site. Although encouraged by results, the management of the Boris Department Store felt uncertain of the success of the new branch. Was it really profitable? An answer to this question would not only affect plans for the branch, but would also help to determine policy on the possible opening of branches in other suburbs or nearby cities. A research group was asked to find the answer.

In early conversations with store officials, several issues were explored. The most obvious problem seemed to be the question of allocating expenses. The branch was not organized as a completely separate unit. Buyers in the parent store also did the buying for the branch. Merchandise was received, checked, and marked in the downtown, parent store, being taken by truck to the branch store when needed there for forward stock. All credit and accounting operations were centralized in the parent

store, as were many other operations. Allocation of indirect and joint costs, therefore, was a problem. Store officials, however, seemed little concerned with profitability in the strict accounting sense. Despite considerable use of sales volume as an allocation base and the possible use of better bases, it was felt that any reasonable division of expenses would demonstrate unquestionably that the branch was profitable.

Neither did store management seem concerned with the efficiency of branch operations. There appeared to be some divergence of views about the degree of adaptation of the branch to its particular market. Except for a few different brands in a few departments and differences in price lines, the branch carried the same merchandise as similar departments in the parent store. Some officials believed there should be more differences and that buyers should be forced to distinguish between the markets. In general, however, efficiency of operations was not considered a major problem. Routine data from stock control records and accounting and statistical data were believed sufficient to detect important weaknesses in operations.

The principal worry about branch profitability apparently stemmed from the same fear which had deterred branch expansion by many stores in the years following World War II, when construction again was possible and when the movement of population to the suburbs was well established. This was the fear that branch store business was stolen from parent store business.

The smaller trading area of the branch store, of course, was encompassed by the trading area of the parent store. This meant that Boris customers now could buy a wide range of almost identical merchandise at two different locations. Had the convenience of shopping outside of the congested city-center area caused customers to shift trade to the new location? It was felt that if most branch sales were the result of a mere shifting of business from one site to another, then the branch was unprofitable. The new expenses incurred in the branch, it was believed, had to be justified by new business, an addition to the total volume done by the Boris Company.

Much suspicion existed that a transfer or switching of busi-

ness actually had occurred. Parent store sales had matched, in fact slightly exceeded, the increase in department store business regionally as shown by the Federal Reserve Board Index of Department Store Sales. This increase, however, was much less than anticipated and far below the rate of growth enjoyed by the parent store in recent years. Perhaps this was due to the siphoning off of downtown trade by the new branch store.

Insofar as switching of trade was the problem, it seemed immediately to lead to the problems of buying habits, customer preferences, customer characteristics, and the competitive situation. The origins of branch business, in short, seemed to involve many market problems. Had the new branch changed buying habits in relation to purchases downtown or in nearby cities or secondary shopping centers other than the Ransom area? How about travel patterns, types of customers affected, competitive changes, and so on? An investigation of such questions could illuminate the problems of why and how the branch was profitable or unprofitable, especially since many forces were operating outside of parent and branch store operations and without direct reflection in store records.

A special problem was the effect of having taken over a site on which a branch store had operated. Had this been a major factor in developing sales? Few, if any, opportunities to secure such sites would exist in the future should more branch openings be considered.

QUESTIONS TO BE ANSWERED

These broad, preliminary considerations suggest several possible problems and numerous specific questions for which research might seek answers. These specific questions include:

1. How much *new* business did the branch develop?
2. How many new customers were attracted?
3. How much business was "stolen" from the parent store?
4. How much new business, if any, would branch operations have to add to make the new branch profitable?
5. Were inactive accounts of the parent store reactivated by the branch?

6. Has the branch been "feeding back" business to the parent?
7. How many Ransom area customers deal only with the branch? Only with the parent store?
8. How many customers deal with both stores, and how do they divide their purchases?
9. What kinds of customers has the branch attracted?
10. Have some customers of the branch stopped buying from the parent store or from all downtown department stores?
11. How many shopping trips do customers make? Where? By what means of transportation?
12. How have specific competitors in the Ransom shopping district, downtown, and in other shopping centers fared?

DATA AVAILABLE

No published results of any similar study were available; neither could any noncompetitive store be found which had made such a study.

Two research reports on the Ransom trading area were available. As already noted, one had been made for the Boris Department Store prior to purchasing the branch lease. It showed ratings regarding women's favorite downtown department stores and their reasons for their preferences; their last purchases of fourteen categories of goods; how much buying was done in specified areas; purchases in the Ransom shopping district, time, type, preferences, stores, means of transportation, and so on. The other was a basic trading area study delimiting the area for wartime purchasing and peacetime purchasing, revealing shopping habits, and estimating present and future sales potentials.

Store records on credit purchases in the form of microfilm copies of monthly statements provided basic data for measuring the place (branch or parent) of purchases, type, and amount. Sales slips data were so filed as to render their use for enumerating a sample of customers very difficult. The dates when accounts were opened and all changes in residence were available from store records. It was estimated that about one sixth of the total parent store sales volume came from Ransom area customers. Nearly two thirds of all business was on a charge basis, but,

when the cash purchases of credit customers were considered, more than 90 per cent of all business came from persons with credit accounts at the Boris Company.

An analysis of 11,555 sales slips for purchases made during one week in May showed the geographical origin of branch customers broken down into nine major areas of the Ransom trading area and twenty subareas.

All regular stock control data, sales data, and other routine statistical and accounting data were available.

A cursory survey of published sources showed the following:

GOLOFF, J. M. "What Customers Think about Branch Stores," *Journal of Retailing*, October, 1948.

"Department Stores Hurrying to Suburbs," *Business Week*, October 4, 1947, pp. 24-26.

CONVERSE, P. D. "Factors Determining Retail Shopping Preferences," *Dun's Review*, August, 1947.

A series of articles by E. B. WEISS appearing in the *Department Store Economist*, March through July, 1949; other articles in *Printers' Ink*, *Architectural Record*, and *Architectural Forum*, most of them about individual stores.

ACTION NEEDED

At this preliminary stage of the study, the researchers wish to formulate the problem, or problems, tentatively but specifically.

1. Which aspect (or aspects) of the question of branch store profitability is central to the problem?
2. How can the basic problem, as it now appears, be defined?
3. What are the specific questions involved?
4. How should the study proceed from this point?

CASE 6—A SURVEY PROPOSAL

BACKGROUND

National Publishers, Inc., an organization of several magazine publishers, following the lead of other publishers and publishing groups, was considering a series of surveys which would interest its readers, industry and trade members, and advertisers. One survey suggested pertained to dehydrated food products. During World War II there had been much public

interest in the military and foreign-aid uses of dehydrated foods and in the potential civilian uses.

THE PROPOSAL

Late in 1946 a letter was sent by National Publishers to the new Dehydrated Foods Council, an organization which at that time represented processors and distributors of dehydrated foods. This letter outlined plans for the projected series of surveys and tentative ideas for a project on dehydrated foods.

Suggestions were made that a survey of housewives might be of greatest general interest and benefit. The most recent of the annual consumer surveys and pantry inventories by newspapers had covered only dry soup mixes. The percentage of housewives stocking dry soup mixes was 33.3 in the Chicago Sun-Times Pantry Poll, and 41.8 in the Omaha World Herald poll. Affirmative answers to the question, "Do you buy dry mixes for making soup?" were, in the *Milwaukee Journal*, 56.7 per cent, and in the *Indianapolis Star*, 23.6 per cent.

The suggestion was made that the present survey cover the full range of dehydrated products, the types of families using each, frequency of use, methods of purchase, and attitudes toward these products. Of interest in the latter connection were the likes and dislikes that family members who had served in the armed forces had acquired through experience with dehydrated foods and how these attitudes might affect market development. Personal interviewing seemed best, though pantry counts and magazine surveys might also be used.

Also suggested was the possibility of a related survey of institutional users and of retail outlets handling dehydrated foods. In addition, of course, any study would include a discussion of industry growth, processes, plans, and other matters. The views and cooperation of the Council were solicited.

THE REPLY

The reply received from the managing director of the Council expressed much interest in a survey such as was proposed and offered assistance. Certain qualifications were given, however, particularly to the effect that the Council felt it would not be

good industry policy to have the results published at this time if they indicated a lack of popularity for dehydrated foods.

During the war years, it was stated, the great volume of dehydrated products consisted of potatoes, carrots, sweet potatoes, cabbages, beets, and onions. Only a small portion of these products found their way to the consumer's pantry, the production being primarily for the armed forces and for foreign aid. However, in addition to the soup mixes and other products mentioned, it was certain that any survey which covered all dehydrated foods would disclose the use by consumers of dehydrated flakes made from celery, parsley, mint, green peppers, onions, and mixed vegetables.

The industry, it was said, increased from 21 manufacturers before World War II to 141 at the close of the war. However, many of these producers were not familiar with the technique of dehydration, with the result that some of the products made were below the standards which had been established by the older producers.

It was to be expected, the Council believed, that the great tradition among soldiers to complain about food would extend to a whole line of products, including, unfortunately, dehydrated foods.

Regardless of the outcome of any survey, the Council said that its members would be vitally interested in the results. The hope was expressed that the problems raised might be discussed together before any final plans were made.

ACTION NEEDED

1. Should preparations for a survey of dehydrated foods be abandoned or should they be continued, in view of the reply of the Dehydrated Foods Council?
2. If continued, how could problems be formulated which would serve the interests of all groups involved?
3. What appropriate hypotheses concerning consumer uses and opinions could be set up at this preliminary stage to serve as a framework for the survey?

CASE 7—A DISTRIBUTION COST STUDY

BACKGROUND

A. R. Merrows, a service wholesaler of grocery lines, operated a number of branch houses and sales offices throughout the country. Although the company operated its own cannery, the bulk of its supplies was purchased from independent canneries, company-owned labels being attached to these products. Of nine company brands, seven were applied to a small number of items, and two, "Made-rite" and "Marvo," were used on wide lines of canned goods and dried fruits. Approximately 60 per cent of the dollar sales of the company as a whole were made to local chains, 15 per cent to schools, hospitals, and other institutions, 15 per cent to independent grocers and other retailers, and 10 per cent to jobbers.

THE PROBLEM

One of the branches was located in the wholesale district of an Eastern metropolis. In this Eastern branch, during the early 'forties, the question arose as to the desirability of making a distribution cost analysis. The initial stimulus had come from a speech the company's general manager had made during a branch office sales convention, in which he said:

In a survey carried out at our main office, we found that 75 per cent of our sales were being contracted with 25 per cent of our accounts. The survey revealed further that unless a customer's order averaged \$24 or more, the firm lost money on it. We do not begin to make a substantial profit on an order until the order averages \$40 or more. It is possible that you people are faced with a similar situation in this market.

As a result of this sales convention, the management of the branch office adopted two remedial measures, one aimed at the sales force and the other at customers. The branch sales manager conferred at length with each salesman to convince him of the unprofitability of selling to customers buying less than \$200 annually. Most salesmen proved difficult to convince, asserting that many of their small accounts actually were profitable

now or could be built into profitable accounts if they were allowed to continue selling them. (Although evidence was not complete, it seemed later that the branch had been unsuccessful in raising any large number of small accounts into the profitable volume zone.)

In those cases in which salesmen had been convinced by the arguments presented, they had proceeded to drop a large number of accounts which were, as defined by the branch, unprofitable. Obvious, however, was the tendency of these salesmen to acquire a large number of new customers in the following months, nearly all of these customers exhibiting characteristics similar to the ones dropped.

The remedial measure directed at the retail trade was an attempt to set minimum limits to the size of the order. The sales force was informed that orders weighing less than 250 pounds would not be delivered. An average case of goods weighed 42 pounds, so this meant that orders had to consist of at least six cases. The price to the retailer of a case averaged \$4. In effect, therefore, the branch was endorsing the general manager's report that the company lost money on orders under \$24.

The difficulty of convincing the salesmen, the uncertainty regarding the actual cost situation for the branch, and the less than phenomenal results achieved by the rigorous methods used, all served to raise the question of the desirability of a distribution cost study, and, if needed, the type of study that would be most useful.

NATURE OF BRANCH OPERATIONS

The branch operated from a multifloor warehouse, part of one floor being devoted to office space. On the ground floor, 21,400 square feet were used for storage and 2,150 square feet for shipping and receiving platforms. Incoming goods were hauled from nearby city docks to the branch house by independent trucking agencies. More than half of all merchandise purchased was transported by steamship. The branch had a private rail siding and was within half a mile of a large freight station. Deliveries to customers were made for the branch by an independent trucking agency.

On the second floor 5,520 square feet were devoted to office space, 41 per cent for the sales department, 25 per cent for the credit department, 24 per cent for an order-routing section, and 10 per cent for administrative offices. Goods were moved internally by freight elevators and a metal chute.

Branch sales of \$1,500,000 annually were distributed much as were company sales except that institutional sales were slightly higher and sales to jobbers slightly lower. The sales department consisted of a sales manager, three sales supervisors, and thirty-five salesmen. Salesmen received a basic commission of 4 per cent and fixed expense accounts, which approximated 1 per cent of sales. Each owned an automobile to cover the broad territories assigned. Within the limits of their territories, the salesmen might sell any customer they could obtain.

Salesmen received mimeographed bulletins from the branch offices each day covering all pertinent market data and developments. Sales meetings were held twice a month and sales conventions twice a year. Executives from the main offices were principal speakers at these conventions.

Advertising media used included newspapers, radio, and billboards. Free consumer deals of the premium type were practiced, the services of outside agencies being used. Cooperative retailer advertising, advertising allowances, and demonstrators' services also were provided, subject to the restrictions of the Robinson-Patman Act.

Credit terms were the same as those generally offered in the trade: 1 per cent, 10 days; 30 days, net. These time limits were strictly observed by the branch.

ACTION NEEDED

1. What type of distribution cost analysis might the branch consider making? Why?
2. What functional expense classifications might be anticipated?

Part II

PRELIMINARY INVESTIGATIONS

The Nature of the Task

Following the original formulation of the problem, but preceding final plans for the research study, preliminary investigations are made of the company, the market, and secondary data. These preliminary investigations are, partly, explorations for new hypotheses or new ideas and, partly, tests of the conceptions of the problem already formed. They also inform the researcher as to the help that may be given, or the warnings provided, by previous research and by facts already available.

The extent and the exact nature of this preliminary research varies. The cautious researcher, however, will not proceed with the final plans until he has tested his understanding of the problem both in the market place and among those who will utilize his findings.

Working Methods

Depending on the knowledge he has gained, the way in which the project has developed, the contacts he has established, and his personal preferences, the researcher usually will select one of the following three types of investigation with which to begin. He may utilize his staff to conduct all three more or less concurrently.

1. *Internal Investigation, or Situation Analysis.* Having necessarily consulted with company officials, the researcher may already have progressed from problem formulation to situation analysis. Often, indeed, it takes much conversation with executives and other company personnel, plus considerable inspec-

tion of company records, merely to arrive at a clear expression of company policies.

The internal investigation is insurance against missing important possible solutions other than those first formulated. Conversations with the persons concerned, probing for their ideas and assumptions, and inspection of company documents and records are the techniques. These methods also help further to sharpen the issues so that a more accurate study can be made and a more practical application of results obtained.

The situation analysis also should uncover the data which exist within the company and the form in which they exist. Many times the most important and most accurate data are buried in accounting, credit, delivery, inventory, or other records. Proper segregation and analysis of these data may provide the quickest, cheapest, and most accurate findings.

In this work the researcher must be on guard against the bias of special interests and of preconceptions.

2. *Investigation of Secondary Data.* Finding useful information or guidance in published materials is increasingly possible. Moreover, research which builds on previous studies usually is more productive than research utilizing noncomparable techniques or producing noncomparable data. Past studies may provide usable facts, helpful theories, or special techniques adaptable to the problem at hand.

The information may be secured from various libraries and government agencies, from trade associations, and from special agencies or private companies. Published material will include books, articles, news columns, and reports of various kinds, all of these usually located through card catalog files, prepared indexes, and references uncovered as the search progresses. Almost every marketing research textbook covers the sources of information used and the methods employed or gives adequate reference to them.

At this stage of research, it should be emphasized, extensive rather than intensive coverage of sources is important. Data gathering, as such, whether of primary or secondary data, comes later. Although the researcher will not ignore figures and find-

ings that solve the problem or contribute to its solution, nor even postpone gathering what he finds, locating facts to solve the problem is not his real objective at this stage. Rather, he seeks to guard against useless repetition, to explore new possibilities, and to sharpen his tools.

3. *External, Exploratory, or Informal Investigations.* Here, for the first time, research moves physically out of the office into the market place. The prospective respondents, those who will be called upon to furnish the basic data of the final, formal study, usually are interviewed at this time as well as users and distributors of the products.

One purpose of such interviews is to test assumptions about the market, or problem, and the hypotheses developed by those doing the study or for whom the study is being done. Another purpose is exploration, the uncovering of ideas which cannot be visualized just by studying the company or published materials. Still another purpose is realism, the development of a "feel" of the market, the actual behavior of customers or others, and the specific terms in which consumers, dealers, and others think about situations. (Realism is particularly useful if a questionnaire is later formulated.) External investigations may also be helpful in the selection of specific techniques of data gathering.

These techniques include individual personal interviews of various kinds, group interviews (or clinics), mail questionnaire surveys, telephone calls, and observation (as of purchasers or salesmen in stores). Choice depends upon the number and geographical distribution of the respondents desired, the nature of the problem, and time, cost, and personal preference or experience.

The most common technique is interviewing which to some extent utilizes probing, or so-called "depth interviewing" methods. Seldom is a fixed set of questions employed. In general, the interviewer seeks to get the person talking freely on the broad subject, being content to steer the monologue back to relevant areas whenever the respondent wanders too far afield. Interviews which result in simple yes or no answers rarely are of any use. Reports are detailed, including verbatim records of

statements of particular interest, and may contain not only identification but a digest of results and an evaluation.

The researcher himself, whenever possible, should conduct some of these interviews. In sifting the reports of others he looks both for the sparkle of a new, unique idea and for general trends. Statistical summaries seldom are valid, however, because of sampling methods used. Time and again in this process the suggestion of one woman has provided a basic hypothesis—or even, eventually, a new product.

Special Difficulties

So much *might* be done and so much information usually exists that it is possible to become engulfed in data and lose sight of central objectives among a mass of details. Contrarily, there is the tendency to skim over data and overlook good materials. One protection against such dangers is not to begin until the problem is sufficiently formulated that a working outline or a working method, scope and direction are provided. Another protection is the use of so-called “standard outlines.”¹ The keynote of such an outline is the use of an orderly process for covering, assembling, and summarizing what information is available and what is missing.

A related difficulty is knowing when to end the process. For the external investigation, the end usually occurs when further interviews fail to develop new ideas or important nuances. For secondary data the investigation should stop short of true data gathering and after the risk of missing anything important has passed—a point to be chosen only by judgment. The internal investigation also should stop short of data gathering before the researcher makes a nuisance of himself, and after a probing of all important areas.

¹ L. O. Brown, *op. cit.*, p. 354, suggests an outline based on “six major marketing factors which control the sales and profits of a company, i.e., the product; the company, industry, and competition; the market; channels of distribution; sales organization; and advertising.” E. S. Bradford, *op. cit.*, pp. 130-31, presents a detailed list with many subtopics and individual questions. The *Check List for the Introduction of New Consumer Products*, Economic Series No. 41, Department of Commerce (Washington, D. C., 1946), exemplifies a standard outline for a specific type of research problem.

The Case Problems Presented

Case 1, "Setting the Stage for a Paint Study," is a transitional case. Ample material is provided for an assignment and session on problem formulation, although the intent is to raise doubts regarding continuation of the study and, if it is carried on, how best to utilize the findings.

Case 2, "Preliminary Investigations for a Small Study," presents a study at the inception of the preliminary investigation level and without full problem formulation. Plans for internal and external investigations are needed, attention being given to the limited funds available. A special challenge may be the possibility of securing final answers direct from consulting secondary sources.

Case 3, "The Evolution of a Hypothesis," traces the development of a promotional study with regard to the influence of women on sales of a men's-wear store. The case focuses on the reports resulting from the informal investigation, interviews with consumers, and their bearing on the study. An opportunity is provided for students to hold their own interviews on this problem for comparison with the reports provided and for evaluation of informal interviewing methods and problems.

Case 4, "Internal Investigation," shows how a consultant went about an internal investigation for a publisher and how the findings affected the scope and nature of his study.

Case 5, "Use of the Consumer Clinic," discusses a technique of preliminary investigation which is not, as yet, widely used. The study itself was experimental, and imagination is doubly needed.

Case 6, "Consumer Panel vs. Store Audit Research," again is transitional. Other cases also have pushed the research into the area of final planning. This one discusses in some detail the techniques employed in data gathering. The case is included here, however, because it represents both a research proposal and a history of how a company attempted to reach a decision, based on its own informal investigation of the situation.

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Part II Cases

CASE I—SETTING THE STAGE FOR A PAINT STUDY

BACKGROUND

As is not unusual, the major part of a course in marketing research in a certain college consisted of carrying out a full-scale research project. Numerous considerations entered into the selection of the project from among several proposed.

The project, it was felt, should be practical. The results should be useful and profitable, not merely interesting. Such a project usually depends upon a cooperative client. It was also desirable that opportunity be provided to prepare a published report, if warranted, and that there be permission to release all but the most confidential data. Problems were preferred that were exploratory and experimental, rather than simply cut-and-dried. As long as such projects involved relatively little expense, the students could afford to risk taking new research paths and thereby provide themselves with much additional experience. Although full consideration was given to specific proposals made, freedom of choice had to be left to the class regarding such matters as the scope of the study, emphasis, and methods used. Interest in the problem, its feasibility for class study, and other considerations also entered into the choice. A proposal made by the secretary of the sales division of the Paint Manufacturers' Association seemed to meet these criteria better than the projects suggested by other associations and firms at that time.

THE PROBLEM

The paint project was outlined by the secretary as follows:

So far as marketing problems in our industry are concerned, one of the greatest problems we have always had is to determine why the American public is using only about 10 to 25 per cent of the possible total of the products of our industry for which there is a definite market and need. In other words, paint for only about 10 to 25 per cent of the surfaces in this country which should be protected and decorated with the products of our industry is being sold. In connection with this problem of selling the public on the advantages of and necessity for the use of finishing products, we would like to know the answers to the following as examples:

1. The color preferences of the public both for inside and outside painting.
2. Preferences for types of paint, such as oil paint, water paint, enamels, and the reasons for such preferences.
3. Average size and extent of paint jobs needed.
4. Who is responsible for the purchase of paint products—men or women?
5. The present attitude of the public toward the quality of paint.
6. The frequency of repainting—interior—exterior.
7. The relative importance of paint to other things for which the consumer spends money, such as automobiles, household equipment, vacations, and so on.
8. The attitude of the public toward installment buying of painting jobs.
9. The reason why the consumer does not paint more often.
10. From what source does the public secure its color ideas for interior painting of homes?
11. How much painting is done by the home owner, by the painting contractor?
12. What prompts the purchase of paint in most instances: advertisements, solicitation by painting contractors or paint dealers, and so forth.

No other factual data were given.

TENTATIVE DEFINITION OF PROBLEM

A decision was made to hold other possible projects in abeyance and to proceed with the paint study. At first blush the

most challenging aspect of the problem and the one most important potentially seemed to be the emphasis on securing merchandising results which might aid in advertising, promoting, and selling paint of all kinds for home use. This might require the collection of data from both consumers and retailers.

Such a merchandising problem, it appeared, would involve consideration of:

1. Quantities used (in quarts, square feet, or dollars) by types (and colors?) of paint related to family income, occupation, size and type of dwelling, home ownership, and so on.
2. Persons doing the painting: family members or others.
3. Influence of various family members in selecting types and colors of paints and in making the actual purchase.
4. Place and manner of purchase of paints and influence of advertising, displays, and so forth.
5. Paint type and brand preference (and use) and reasons for preferences, such as cost, appearance, ease of application, ease in cleaning, durability, and quality.

PRELIMINARY INVESTIGATION

Among the materials found in a search for secondary data was a study entitled *Paint, Varnish, and Lacquer* by the Consumer Research Division, Curtis Publishing Company, published in May, 1940. This was a report on 1,741 consumer interviews made in October, 1939, in 18 cities from coast to coast.

Questions asked included the following: when exterior was last painted; what interior painting of any kind was done in the last three years; what painting for both exteriors and interiors; reason for painting; cost; who did the jobs; who purchased the paints; who selected the brand and why; who suggested that painting be done; what rooms have painted walls; what rooms were changed from paper to paint or vice versa, and why; who selected color and how; what term "paint styling" means, and desire for information about it; seeing or use of paint manufacturer's book on interior decorating ideas and color selections; possibility of paying for painting by budget or installment plan; alterations or additions desired; need to paint exterior, and, if

need exists, why it is not being done now; seeing or hearing of recent paint advertisements; which advertisements most helpful, best; and proportion of income spent on various items.

ACTION NEEDED

1. What decisions concerning the project might have been made in the light of the availability of this previous study?
2. How might the findings of that study be utilized most effectively in planning the present one?

CASE 2—PRELIMINARY INVESTIGATIONS FOR A SMALL STUDY

BACKGROUND

The Modern Display Company is a small firm located in a large Midwestern city. The major portion of its business is the construction of dioramic exhibits or displays, many of them being animated. These displays have been used most commonly in store windows and museums, and at conventions and fairs. Clients have included large, nationally known corporations as well as many smaller companies. Company exhibits were used during the 1930's at the New York World's Fair, the San Francisco Exposition, and the Chicago World's Fair.

The business was organized in the early thirties. Until the beginning of World War II it had operated successfully. Then the business was closed for the duration because the owner-manager went into service. He had special training and ability in both art and topographical engineering, and the small business he operated required these skills.

Re-establishing the business after the war presented new problems. Although the owner was able to build up a competent staff of about twenty workers, he experienced great difficulty in soliciting a sufficient volume of business. Just prior to the war, sales had run at approximately \$125,000 a year. In the first years after the war, sales had never gone above \$75,000 and had been as low as \$50,000. Unit sales also were far below pre-war levels.

SELLING METHODS

The company relied for business almost entirely on direct mail or on the initiative taken by prospective customers. The major appeal used in direct mail promotions was to the durability of displays produced. The mailings often resembled announcements more than sales letters.

Returns from these mailings often had been disappointing. For example, the owner had decided the year before to feature a dioramic display with a Christmas theme suitable for banks and churches. The display was priced low, and could be produced profitably only if a hundred or more orders were secured. A list was purchased that contained names and addresses of over 6,000 organizations. A series of four letters was then sent to each name on the list. Only ten orders were received. As these could have been filled only at considerable loss, the orders were canceled.

At the time that a research consultant was called in, annual mailings designed to sell exhibits for use at conventions were being readied. Lists of exhibitors had been secured from the convention bureau of the local Chamber of Commerce and from a number of hotels. Letters were to be sent addressed to the "Director of Convention Exhibits" of the companies on the list.

THE PROBLEM

The owner had approached a free-lance consultant recommended to him by a business friend. The owner felt that he could not afford more than a few hundred dollars for research. Although he was eager for any recommendations on securing a larger volume of business at a reasonable sales cost, he considered direct mail to be the only practical means. The problem, as he saw it, was, "What has been wrong with our mailings and how can we improve them?" The fee he had in mind was \$200.

ACTION NEEDED

1. What type of preliminary investigations should the consultant make?

2. Should the preliminary investigations actually be merged with data gathering, and, if so, in what way and with what probable reliance on secondary data?
3. What possible solutions are there to the company's problems?

CASE 3—THE EVOLUTION OF A HYPOTHESIS

BACKGROUND

The Rajah Men's Shop was a high-grade store located in the downtown shopping area of a large city. Although advertising extensively, it classified itself as a nonpromotional store. Only a few clearance sales were held annually. The store did not run price events or stress price or bargains in its advertising. Indeed, it felt that men's-wear chain stores and most men's-wear departments of department stores in the city, the promotional stores, were not really competitive.

Advertising, however, was seldom of the strictly institutional variety. The bulk of the advertising, of course, was for men's outerwear, and this advertising stressed brand names, particularly a line of high-priced clothing with a well-known national label carried exclusively by this store in that city. Although the store carried a wide assortment of men's and boys' clothing, accessories, sportswear, and related items, men's suits provided the major line.

The store wished to make a survey of men in the area which would (1) test and expand its knowledge of the characteristics of its customers, and (2) provide material to serve as a basis for advertising and promotional efforts being directed toward cultivating new customers and toward increasing business, or strengthening store loyalty among present customers.

DEFINING THE PROBLEM

One of the questions raised by a store executive in outlining the problem was: Does the influence of a woman on a man's shopping decrease with his increased earning capacity?

Taken alone, this question seemed to be a side issue of rel-

atively little importance to the merchandising of men's suits. Although the dominance of women as buyers was well known, it was not believed that this was particularly relevant to men's clothing. In so far as it was relevant, the answer to the specific question very probably was that woman's role as a purchasing agent for the family decreased as income increased. Moreover, recent evidence suggested that, at least in secondary shopping centers and suburban locations, men were tending to increase their participation in family shopping. The fact that many women accompanied men who were buying clothing was recognized, but this was considered a special aspect of personal salesmanship apart from advertising problems.

As a result, the tentative definition of the problem did not include any major hypothesis concerning women's influence, but simply raised the question: What influence have women on customer behavior?

SITUATION ANALYSIS

Store records revealed nothing about women except that a minority of accounts were in women's names; presumably these were single women, widows, or mothers buying boys' clothing. The advertising manager revealed that advertisements in suburban presses often were used to sell boys' clothing. He assumed that these advertisements were read mostly by women. Audience studies also showed that radio and television plugs had many female listeners and viewers. In both cases some attention was given to women, but only for gift buying before Christmas and Father's Day did the store attempt to promote men's clothing to women. Even men's furnishings, extensively bought by women normally, were advertised only to men.

The internal investigation indicated that about one fourth of the customers came in with their wives. Salesmen were instructed to give at least as much attention in these cases to the woman's preferences as the man's, although as unobtrusively as possible. The store manager expressed his opinion that women unquestionably exerted some indirect influence on the men's purchases. In his opinion this influence was transmitted by such comments on the part of women as: "You look good

in blue," or, "Don't come back with one of those things again."

Information from secondary sources also stressed the influence of women on men's purchases when accompanying men, the dominance of women in purchases of furnishings and accessories, and their importance in all lines of men's and boys' wear sold in department stores. In one instance, the Rajah Shop noticed an advertisement in an out-of-town paper by another men's store addressed directly to women. It had not been known that any men's store used this policy. A letter to the advertising manager of that store elicited the following statement:

In our stores, especially in the suburban areas, we have noticed that the majority of men purchasing clothing are accompanied by women. However, to back up our feelings in the matter I am attaching a bibliography which I hope you will find useful. There is no doubt that women influence a great deal of spending in this country. But I do not have specific facts at my finger tips to give you at the moment.

The attached bibliography included these items:

Male vs Female Influence in Buying and in Brand Selection, Vol. II. New York: True E. Fawcett Publications, 1950; also 1948 edition.

The Influence of Women on Buying. New York: Hearst Magazines, Inc., 1948.

Who Buys. New York: Batten, Barton, Durstine & Osborn, Inc., March, 1946.

P. D. CONVERSE and C. M. CRAWFORD. "Buying Habits in the Home," *Advertising Agency*, XIX (July 26, 1948).

"Women Dominate Male Spending, Fairchild Says," *Advertising Agency*, XIX (July 26, 1948), p. 41.

"Women Still Influence Men in Suit Buying," Wool Bureau Reports, *Tide*, March 2, 1951.

This letter was not received until after the external investigation was begun. Except by hindsight, however, it is doubtful that it would have influenced the interviews greatly in any case.

INFORMAL INVESTIGATION

Interviewers were sent into scattered neighborhoods primarily to interview men, although a specified number of interviews with women, or with men and women together, were allowed. They were instructed to induce the respondents to talk about clothing and to report the conversations. Among subjects to be covered were where those interviewed bought their clothing;

what they looked for, liked, and disliked; and the influence on purchases of advertising, window displays, brands, store name, salesmen, friends, wives or other women, price, and store services. Respondents were to be identified by age, by an estimate of their income or income group, and by other factors. Selections and summaries from the more than one hundred reports filed follow:

1. Man, 50, income about \$6,500 per year. When younger bought at Rajah's and at . . . ; but "they outpriced me." Not affected by advertising unless a known brand is sold at a markdown. Usually buys alone. Not influenced by wife. Would like to buy in suburbs if stores had branches there.

2. Man, 42, about \$8,000. "I have been buying . . . (brand) . . . suits for a long time." "I like to buy where I am known and a smaller store gets to know you." "I am a stickler for brands." "I have more confidence in brands." "Stores carrying national brands stand behind the goods." "I went into a store with my wife to buy a hat, and bought an overcoat, and then my wife insisted on a blue suit." "My wife insists on buying more than I would ordinarily."

3. Man, 45, about \$6,000. Thinks women influence men's shopping, but "I don't like my wife to help me."

4. Man, 40, about \$5,000. "Married men don't care as much about appearance. We don't have to impress women anymore." "A wife wants other women to look and think her husband is well dressed." Buys when he needs a suit. Does not think income affects price paid. "Credit is an equalizer." Brands do not influence him; prices and styles do.

5. Man, 63, a fireman, but with other sources of income, \$8,000. "I buy all my clothes at . . ." Dealt there 30 to 40 years. "I know a salesman there. He's a good guy. You know, you can kid with him and everything. I don't have to go down if I don't feel like it—he just sends up what I call up and ask for. He knows what I want." "One day I said to the wife, 'I want a windbreaker. Want to come along?' She says, 'Fine.' She never interferes. I got a good woman. Anyway, we came back with two suits—no windbreaker. She's easy going, a good judge of clothes, too." "One suit I got I've had quite a while, a good suit; but it's too young-looking for me now. One day I walked out of the house with it on and the woman next door said, 'Who do you think you are, some spring chicken?' I took it off—went right back upstairs and took it off. Haven't worn it since either." "Used to wear single-

breasted suits. The salesman says a double-breasted suit looks better on me. He's full of that stuff. I've been dealing with him for a long time."

6. Man, 50, traveling salesman, about \$6,000. Buys suits when what he has wears out or becomes too small around the waist. "Sometimes you put it off too late. Then I buy my stuff wherever I happen to be. Most of the time, though, I buy my clothes in . . . That's where the home office is. I can get my stuff there easier, don't have to kill a Saturday when I'm home. Don't care what name is on the label. I go to chain stores that I know. They make their own stuff. I know it's O.K."

7. Man, 45, shop owner, upper middle income class. Doesn't like to shop. "I hate to get dressed up." Wife does all his shopping except suits and shoes.

8. Man and wife, fortyish, middle income class. He didn't have a chance to talk much. Wife supplied the talk. He doesn't care to shop. Wife buys most of his clothing, even including suits and overcoats. He doesn't even go with her, her judgment on purchases apparently being final.

9. Wife, 60, high income. Husband has all suits tailor-made. Recently he bought a ready-made suit, "and if you ask me, I must say it looks like the devil."

10. Man, 38, about \$5,500. In-laws worked at department store, and he bought there because of the discount. Now he still goes there because he has a job nearby and it is convenient for him.

11. Man, 40, \$8,000. "I'm not much on clothes." Buys a suit every two years. "Sometimes my wife goes downtown and buys it. She takes my size and goes out and buys it." A builder, he wears old clothes most of the time.

12. Wife, 40, \$4,000. "Oh, I never go with him." He buys only one suit a year and one pair of slacks. "We have seven children, you know."

13. Man, 55, \$3,500. "When I need a suit, I just go downtown to . . . or . . . (several department stores mentioned) and get one." "I always take my wife. These salesmen try to push a suit onto you no matter how it fits."

14. Man, 50, upper income class. Buys most suits in . . . where he has one of his offices and the rest made to order here. Wife goes along sometimes. Thinks local selection is poor, and must make a special trip downtown.

15. Man, 48, insurance broker, upper income class. Usually buys within walking distance of city-center office or where parking convenient. Doesn't like department stores. Buys 7 or 8 suits a year.

16. Doctor, 30, \$10,000. Wife is dominant in buying clothes. She

tells him when to buy. He seems to be proud of the fact that he doesn't have much time to think about clothes. Wife usually accompanies him. He bought a rayon suit on his own: "I got stuck. I'll never go to another sale."

17. Wife, 30 (man, 45, engineer), \$11,000. When married "he was already an old bachelor and knew how to dress." "Once I bought him some ties and he ranted and raved about them." "Where in h - - - salesmen ever get the gall to sell these monstrosities to women." He buys loyally at one store, Rajah; formerly (for 15 years) at store in another city.

18. Reporter, 45, about \$6,000. Buys at no particular place. Used to buy at Rajah's before the war but hasn't for a long time. "They're high-priced. I don't always have the capital." Used to deal only with one salesman there. Wife has no particular influence, he says. "I buy what I want and then catch it when I come home."

19. Man, 35, about \$5,000, works for manufacturer of men's apparel for a large chain. "My wife is like everyone else. She thinks a \$45 suit is not a cheap suit and why buy a suit for \$90 when you can get two for the price." "Nothing like good clothes. I used to buy \$3, \$5, \$8 ties, and shirts for \$8. People used to ask, 'Where did you get that tie?' or 'Where did you get that shirt?' That proves it's good, doesn't it?" "I still like expensive clothes, but you can't afford those things when you're married." "I could buy a suit for \$17 at my place that wholesales for \$51, but I wouldn't enjoy wearing it so why should I buy it?" "Advertising is the biggest farce in the world."

20. Man, 50, \$3,000. Would rather buy two cheap suits than one expensive one because "they all wear the same anyway." He claimed his wife didn't influence his buying; but she was there and laughed when he said this.

21. Man, 55, \$9-\$11,000. "When I buy a pair of shoes, I just walk in, stick out my foot, and ask if they have any like the ones I'm wearing. Haven't changed my shoe style in years." "When you have a bay window and narrow shoulders like I do, you don't dare wear anything but a conservative suit."

22. Lawyer, 35, \$10,000. Has to have all clothes made to measure, as is about 6' 6" tall. Says he could afford more expensive clothes. Pays about \$60 for a suit; indicates that expensive means around \$100. Started buying at present store when a law student, and has continued because he finds the clothes completely satisfactory.

ACTION NEEDED

The selections listed above from the reported interviews were chosen largely to reflect findings relevant to the influence of women on men's clothing purchases. At the same time, however, these selections suggested to the researcher other possible hypotheses concerning customer behavior that might be used as a basis for the full-scale study of the subject. What are these hypotheses and what justification do these interviews provide for them?

CASE 4—INTERNAL INVESTIGATION

BACKGROUND

A large university operated its own Press as one of its departments. The editor—also the director—was responsible to a governing board of university officials and faculty members. The staff included the director, a sales and office manager, an advertising and promotion manager, a production manager, a bookkeeper, a shipping clerk, and five secretarial and clerical assistants.

The Press did not have its own printing facilities. Printing, binding, and other manufacturing operations connected with its publication of some twenty to thirty titles each year were contracted for according to Press specifications. All other business operations, as well as editorial activities, were performed by the staff. Publications were primarily of scholarly works and of books of regional or local interest. The Press did not publish fiction or popular books, and it neither sought nor, because of its distribution facilities, was able to compete with commercial publishers for manuscripts or sales. In addition to current publications, the Press had a back list of several hundred books previously published and still in print.

In common with nearly all university presses so operated, this one steadily lost money. No one was disturbed by this fact until after World War II, when publishing and labor costs rose, as did the amount of the annual deficit which had to be

met from general funds of the university. In 1949 the deficit exceeded sales. Because the amount seemed excessive, and because the university was under financial stress at the time, consideration was given to special methods of solution.

A decision was made to hire outside consultants. Two men from the faculty of the School of Business were hired, one to work part time for a month on an organizational study and the other full time for a month on a study of business methods. In general, these men were to work separately. This case concerns the activities of the full-time consultant.

THE PROBLEM

Preliminary discussions concerning the troubles of the Press and the type of study that seemed desirable had centered on selling and advertising. Lack of volume appeared to be the chief difficulty, and better promotion the chief remedy. The hope was that an analysis of the distribution and promotion policies and practices of other university presses and commercial presses, plus the application of sound business practices in general, would lead to improvements in operations. Greater economies in operation were considered possible, but were not thought to be a major problem, except perhaps as organizational changes might be involved.

Thus, it was planned that the man concerned with organizational problems would spend all his time in the offices of the Press and would make extensive use of its records. The other man might wish to familiarize himself with current practices and to examine a few records (or confer with the organization consultant), but this would be merely a preliminary investigation on his part, not his main activity. He was assured, nonetheless, that all records would be open to him and that he was entirely free to develop the study as he saw fit.

This man began his work by talking to various persons in the offices, discovering all the types of records maintained and the manner in which they were kept, as well as outside material available on university presses, and examining and sampling the records. After four days these methods continued to turn up new problems and promising leads.

A new problem thus arose. Should he devote nearly all his time to analyzing records contrary to what those hiring him, and he himself, had planned?

DATA AVAILABLE

Under methods established by the budgeting office of the university, the Press prepared monthly, semiannual, and annual profit-and-loss statements. From these could be assembled data on such natural expense classifications as salaries, postage, and travel; but functional expenses could be estimated only crudely from these records.

Duplicate invoices for each individual sales transaction were filed numerically and showed the names and addresses of purchasers (but not classified as to sales agent, wholesaler, bookstore, library, or individual, except as such classification was revealed by discounts or customer listings), dates, list prices, discounts given, cash or credit terms, postage costs, and return allowances.

From the invoices used to assemble orders and ship them, the shipping clerk kept a ledger by individual book titles showing the date and number of books received from printers, all shipments to buyers, shipments to those receiving complimentary copies, returns, and the book inventory balance together with annual physical inventory counts and adjustments.

From this shipping room ledger, author royalties and payments to subsidizers of publications were calculated. A separate record was maintained of amounts paid on each title and dates of payment.

Contracts with authors and subsidizing organizations, both university-affiliated organizations and others, were on file. These yielded methods of calculating payments by subsidizers to the Press and methods of calculating royalties on sales, authors' copies, other complimentary copies, and other arrangements. The latter included in some cases provisions for sharing promotional or handling costs, or both.

A production ledger contained detailed quantity and cost data on each individual title published regarding contracts with firms, deliveries of sheets, bound books, payments made, total

costs, costs per book, storage of type and "killing" of type, and other details connected with production.

The advertising department had summaries of total monthly expenses, lists of complimentary copies issued, and mailing lists. Unsummarized but in the files were details on campaigns, on placement of display ads and amounts paid, special exhibits, and all correspondence. Commissions paid to sales agents were available in summary form.

Outside sources included a recent exhaustive study of thirty-five university presses, by Chester Kerr.¹ This included detailed discussion of business methods used together with cost data (which differed, however, in accounting methods from that used by the Press and were not strictly comparable in all regards). Also available were articles on various aspects of university press operations, contracts used by other presses, and miscellaneous materials.

The preliminary inspection of these records and sources hinted at a number of apparently grave internal problems. Among these were the following:

For more than twenty years the Press had used a rule-of-thumb method to cover manufacturing costs on subsidized books, which were over half of all the books it published. To the out-of-pocket costs paid for paper, printing, binding, and other production operations was added a flat 10 per cent which the subsidizing organization, or author, paid to the Press. This amount was supposed to cover the salary of the production manager, who designed the book and handled all production problems. It was also supposed to cover the editorial work of the director and others, incidental expenses, and overhead. A cursory inspection indicated that this sum fell far short of meeting actual production expenses incurred by the Press. If so, a more complete analysis could establish the fact and lead, perhaps, to corrective measures.

In return for their contributing one third, one half, or even all of out-of-pocket manufacturing costs (plus 10 per cent), the Press offered its subsidizers widely varying amounts of royalties

¹ *A Report on American University Presses* (Washington, D.C.: American Association of University Presses, 1949).

running up to 65 per cent of the *list price* of books. These high royalties were presumed to induce optimistic subsidizers to take the risk of assuming manufacturing costs. A cursory examination suggested, however, that these rates were ridiculously high, and that in many cases the Press was guaranteeing itself a loss by such contracts. The more books sold, the greater the loss, because the amounts netted by the Press could not cover handling costs. Further evidence on this point was supplied by an examination of the discount schedule of the Press, which was 33½ per cent on purchases of 1 or 2 copies, 40 per cent on purchases of 3 to 24 copies, 41 per cent on purchases of 25 to 49 copies, 46 per cent on purchases of 50 or more copies, and 50 per cent on purchases made by representatives abroad for foreign sale. Over and above manufacturing expenses, the Press expense as a percentage of the list price of books sold was, apparently, more than 60 per cent. An inspection of invoices showed few purchases, even by wholesalers, of more than 3 copies at a time.

Because manufacturing expense was charged as a current operating expense and was a major item in the budget, there was a definite pressure to bring out subsidized books. This pressure, together with the apparent situation on discounts and operating costs, pointed to a possible policy problem.

Subsidization apparently had another bad aspect. Led to believe that subsidized books were loss-proof books, staff members were extremely liberal in passing out free copies. This further reduced potential revenue.

An inspection of the size of editions and the amounts sold suggested that the Press was consistently misjudging the market. One biographical series of regional interest had 11 titles, 10 of which had been issued in editions of 1,500 copies and 1 in an edition of 1,000 copies. Only three of these books, however, ever had sold more than 556 copies. A hasty inspection of records showed that the bulk of sales in nearly all cases was made in the first few months after issue, so that a method of forecasting sales might be feasible. Forecasting could help to determine the number of sheets originally printed, the number of copies bound, the advisability of retaining or killing type, the

desirability of reprinting. A quick check on reprints showed that only a small fraction of reprinted books actually were sold, a particularly disappointing showing on the problem of gauging the market.

Discussions with staff members and an inspection of methods of calculating costs revealed another problem. Because the sales of most books were very small, a calculation of the cost per book of an edition of 500 or 750 was always discouragingly high. A frequent solution was to double the size of the edition, which automatically reduced substantially the cost per book. The apparent cost reduction was, of course, pure fallacy unless most of these books actually were sold—which the records suggested rarely happened. More realistic costing, therefore, a definite planned loss as against unrealized hopes for profits, might be an important economy measure.

As noted, the number of free copies, or "exempts," seemed abnormally high. These were under the supervision of the advertising department. In addition to this "no cost" promotion, expenses of this department appeared to be way out of line with that of other university presses. This might or might not be due to the low volume of sales. The general policies of the advertising department also were suspect. Major expenditures were for display advertising; that is, advertising in newspapers and magazines for individual titles, a common practice in commercial presses but not in university presses with their more specialized markets. The timing also seemed to follow commercial practice and to be badly adapted to the special circumstances of the Press.

Monthly payments to sales representatives averaging \$5.38 in the South, \$10.58 in the West, and \$117.98 in the East immediately suggested a possible sales problem, since these payments seemed ineffective in some places, and superfluous or overcostly elsewhere.

Pricing policies and practices also seemed fruitful sources for analysis.

ACTION NEEDED

1. Should the consultant on business problems shift his analysis primarily to internal records?
2. Was his internal investigation sufficiently conclusive to support a fixed plan for his study?
3. What problems were most important?

CASE 5—USE OF THE CONSUMER CLINIC**NATURE OF THE CONSUMER CLINIC**

The Albion Research Associates, Inc., a general agency, had devised a method of exploratory group interviewing to be used during the preliminary and planning stages of consumer survey research projects. The primary use of this method, called "the consumer clinic," was to assist in the more accurate formulation of hypotheses and plans. Although not designed to supplant the pretest—an advance test under actual conditions of a formal, often large-scale, survey—clinics had proved helpful in solving questionnaire construction problems.¹

The clinic consisted of bringing together approximately ten persons for a discussion of the project with those in charge of it. The discussions usually lasted about two and a half hours, and the respondents were paid \$1 an hour for their time. Housewives, for example, were most easily persuaded to attend meetings held on weekdays between 2:00 and 4:30 p.m., times when they ordinarily might go shopping. The members of the clinic were secured by sending out interviewers to solicit cooperation. A truly representative sample was not considered either practical or necessary. Efforts were made, however, to secure participation from all age, sex, income, or other classifications relevant to the problems at hand.

Results of the early clinics were difficult to reduce to specific statements or tabulations. Secretaries and research assistants

¹ For a similar idea more recently applied by the Grey Advertising Agency of New York see G. H. Smith and H. A. Vitriol, "Why We Use Group Explorations," *Printers' Ink*, July 18, 1952, pp. 46-47.

were used, thereafter, to take full notes on, and impressions of, the discussions. Prepared questionnaires also were given to participants. Indeed, it was found that participants would readily complete several long questionnaires in addition to discussing subjects raised. This made it possible to consider a great variety of possible problems. Meetings also were improved by holding them in comfortable surroundings and by providing charts, large advertisements, samples, or other exhibits as stage settings. Four to six separate meetings with different groups of participants were held, the number depending on the complexity of problems faced and the rate of appearance of new ideas from one meeting to another.

In assessing the consumer clinic as a research device, several tentative conclusions had been reached. Although clinics probably were more expensive than usual methods, results also seemed better. The directors of a project were able to obtain information at first hand. Seeing and talking to respondents in groups was far more effective than reading interviewer reports, especially since executives were rarely able to go into the field interviewing. Group meetings were particularly effective in probing for opinions, attitudes, and motives. Better problem formulation, questionnaire construction, and methodology planning were believed to result from clinics.

On the other side of the ledger were the added costs, if executive time were counted. In addition, participation in discussions, despite all a chairman might do, depended heavily on the articulateness and aggressiveness of individuals. No matter how objective the researcher tried to be, it was easy to be impressed by statements expressed forcefully and well and to minimize ideas put forth hesitantly, though careful reading and comparing notes later alleviated this problem somewhat. Moreover, some tendency existed for participants to follow the leader, though definite splits in opinion also were common. The researcher directing the meeting might introduce bias (quite unwittingly) because of gestures, intonations, or other apparent clues to his views. Some suspicion existed also that participants tended to become "conditioned" during the clinics, causing them to react unnaturally. Nevertheless, most of these

problems were inherent in interviewing and were not special afflictions of clinics.

After several years' experience with consumer clinics, including their use for projects involving rugs, dish cloths, a beverage, and the location of a department store branch, the agency was considering using the consumer clinic for a current project, a distributive efficiency study.

THE PROBLEM

The exploratory study of distributive efficiency, in which Albion Research Associates had been asked to participate, was financed by a grant from one of the large foundations. The study was to be an attempt to formulate possible measures of marketing efficiency and a test of the practicality of gathering the data needed to make actual computations of marketing efficiency in different situations.

An important segment of the study centered on consumer marketing activity. One of the many tentative hypotheses, for example, stated that "the marketing costs of consumers rise or fall as the number of points to which they must go to do their share of the marketing task and the distances they must go out of their routine patterns of day-to-day travel in order to reach these points increase or decrease." In considering this problem, it was thought that it might be more significant to consider the basic location of a consumer not as the usual *point* of residence but as being along a line of normal or routine movement—an orbit—occasioned by his occupational, recreational, and social activities. In some instances, time rather than distance of travel would be the desirable measuring rod.

Although origin and destination (O.D.) and other traffic studies, as well as store location projects, provided considerable data on consumer movements within the metropolitan area to be studied, none was sufficiently comprehensive or precise to be useful for present purposes. The primary task of Albion Research Associates, in fact, was to develop and test methods for obtaining the required data on consumer activities.

The data considered necessary included in part the following general categories (most of which were subdivided still further):

Time Data:

1. Total time spent in marketing per day by housewives, by workers outside the home, by school children, and by other family members.
2. Time spent in getting to and from market areas or individual stores.
3. Time spent in stores and public places of all kinds, plus possible breakdowns of activity within stores.
4. Time spent moving from store to store.
5. Time spent in traveling to and from work.

Distance Data:

1. Total distance traveled per day on trips to work or school, social visits, and buying trips.
2. Distance traveled by types of transportation used, by routes traveled, and by travel purposes.

Other Data:

1. Expenditures made by type and amount.
2. Number of stores visited by type per day, per trip.
3. Number of unpaid marketing manhours.

ACTION NEEDED

Among decisions which had to be made were several pertaining to the possible use of consumer clinics. Would consumer clinics be useful in the preliminary stages of this project? What types of questions might be discussed profitably? What sorts of questionnaires could be constructed for use at the clinics? How many persons should be invited? What types of people?

Because of the nature of the project, it was certain that surveys, observational methods, and experimental methods would be tested to some degree. Suggestions already had been made that small panels be set up, with panel participants to keep diary records of various sorts. If such panels were established, might clinics composed of panel members be used in order to explore such problems as those of recording data? Might a clinic be useful after the panels were disbanded to explore the accuracy of methods used, the adequacy of compensation, participation by family members, and so forth? In other words, how might

consumer clinics be used in defining and delimiting the problems to be explored in this project?

CASE 6—CONSUMER PANEL VS. STORE AUDIT RESEARCH

BACKGROUND

The Plumtree Corporation manufactured "Pomate" (a special hair preparation) and a line of personal-care products. Distribution was mostly through wholesalers. Drug stores originally had been the only retail outlet of importance. Plumtree products now were sold in food stores, department stores, and variety stores, through mail order houses, and through other miscellaneous outlets. In fact, sales of the major products in supermarkets alone rivaled those in drug stores, a welcome development profitwise but one which was raising vexing distribution problems.

Since the early 1940's the corporation had subscribed to a continuous store audit research service. The corporation had no marketing research department, and important research decisions were referred to the president, Mr. Ernest Plumtree.

When first approached by representatives of the agency making the store audits, Mr. Plumtree had not been conscious of any pressing need for research. The arguments made, therefore, that store audits were a far better technique than were interviews with either retailers or consumers (because interviews were subject to error, bias, and memory loss, and often failed to produce real facts or accurate numerical data), had not seemed, frankly, of much relevance. Nor had claims that a continuous study was far superior to static surveys been impressive at the time. The furor about the *Literary Digest* poll failure, although recalling painful memories, had not been entirely convincing either. In general, he appeared awed by statistical matters and suspicious about sampling techniques as applied to business affairs.

What, perhaps, had convinced him most that the corporation might benefit by contracting for the store audit service was the

information it revealed about competitors. It was impressed upon him that his principal competitor, through this service, already knew a great deal about his company's practices and accomplishments which he regarded as extremely confidential. (A private inquiry convinced him at once that the corporation could not afford its own store audit, and that even if it could, competitors still could obtain the same information.) The amount of up-to-date, detailed information he could obtain on his major competitors, of course, was highly attractive. Moreover, he had seen at once how records on factory sales to wholesalers might be completely misleading in assessing current promotional campaigns, which were of particular concern to him. Many other considerations had also entered into his decision to subscribe to the store audit service.

Once made, the decision had never been regretted. Unquestionably, store audit services were a sound business investment. Although the fees had seemed large at first, they were but a small fraction of promotion costs alone. The information obtained was extremely helpful in making nearly all major marketing decisions. The corporation had applied the services to two other commodities, one of which, however, was discontinued, although "Pomate" remained the mainstay of the company. Moreover, the detection and assessment of competitive moves had on several occasions led to quick and successful imitation of the same practices. No doubt, the profit on these ventures had paid for research costs in full.

These matters were fresh in the president's mind because an organization offering national consumer panel research services recently had made a presentation before all top executives of the corporation. The reactions had been favorable. The question facing Mr. Plumtree was: should the corporation contract for this service also? If it did, should both the store audit and the consumer panel service be used, or should the corporation contract only for one?

STORE AUDIT METHODS

Store audits were based on a national sample of retail stores. Auditors called periodically at these stores to transcribe data

from store records on all products for which the agency had clients. Stores were compensated for their cooperation. Because convenience goods stores kept no records of unit sales, it was necessary to estimate unit and dollar sales for each package size and brand of products studied. This was done by obtaining two sets of figures: (1) purchases made (from manufacturers or wholesalers as shown on invoices) and the prices paid, and (2) a physical inventory count. By adding purchases to inventory at the beginning of the period and deducting inventory holdings at the end of the period, the sales, or disappearance, of the product could be calculated. (Purchases plus or minus inventory change could also be used to estimate sales.) Estimates of turnover, stock-sales ratios, margins, and out-of-stocks could also be computed from these figures. In addition, auditors observed and gathered information on special purchases, on deals or cut-price sales, on advertising, and on window and interior displays of products. For purposes of breakdown analysis, all cooperating stores were classified as food, drug, and so on, stores, as chain or independent organizations, by size, by service or self-service, and by city size, county size, and geographical region.

As a result of these audits, the Plumtree Corporation could be provided with these broad categories of data:

1. Sales to consumers by package size, by brand, by type of product, and by commodity group in units and in dollars.
2. Retailer purchases in total, by number of reorders, and by average order size, and by purchases made direct or from wholesalers.
3. Inventories in units, dollars, and total inventory changes, days of supply on hand, and out-of-stock items.
4. Prices paid by dealers and by consumers, special deals and sales, and retailer gross margins.
5. Display and advertising activities by retailers for company products and those of competitors.

All these data, when cross-classified with each other and with store classifications, provided a host of breakdown analyses. Each variety of "Pomate" was analyzed for the company in relation to each of four major competitive products and in relation

to all minor competitive products. Thus, the share of the market and all trends in the market as a whole or by regions, city sizes, types of stores, and so on, were periodically available. In short, store audits constituted a "waterfront" job of research providing continuously in one "package" a large amount of basic market information. This information could be applied to a whole range of marketing problems, such as problems of pricing, packaging, display, advertising, and selling. Supplementing it with information on competitors obtained from *The Standard Rate and Data Service*, from salesmen, and from other sources, the company could not only assess its share of the market in total and by many classifications but could also evaluate the results achieved by competitors.

CONSUMER PANEL METHODS

The national consumer purchase panel, as operated by the organization which had made the presentation, utilized diary records to be kept by panel members. These members were selected to constitute a cross section of all American families. As members dropped out, or were rotated, replacements were added to maintain the representativeness of the panel. All purchases by family members of products being studied were to be reported on diary forms provided. The information, to be recorded as soon as the purchaser returned home, varied somewhat with different types of products. In general, it consisted of date of purchase, age and sex of purchaser, complete product description—including brand, weight or size, type, number of units, and price paid—and type of store patronized or method of purchase. Families cooperating were compensated by receiving coupons redeemable for a wide variety of goods. Each family unit was identified by such characteristics as number of members, age and sex of each, occupation, income, education, and location. Again, cross-classification of the data gathered made a great number of breakdown analyses possible. The panel provided a continuous flow of basic market information about the products of a company and those of its competitors, and data were useful for a whole range of marketing problems.

CONFLICTING CLAIMS

Mr. Plumtree was somewhat disturbed by the conflicting claims and adverse criticisms made concerning these two systems. Store audits, it was said, were faulty, or were weakened, by inability to audit the stores of some large food chains and syndicate or variety stores, and also by failure to include doorstep and mail buying and miscellaneous retail outlets. These difficulties, it was asserted, tended to make the sample of stores unrepresentative of actual purchases. Moreover, poor retail records, disappearances of merchandise because of shoplifting, employee thefts, breakage, and other causes contributed to inaccuracy in data gathering. On the other hand, it was claimed by the proponents of the store audit method that these problems could be handled by careful sampling, by proper compensation of store managers, and by other auditing and statistical practices.

Panels, it was said, could not be maintained on a probability basis, because cooperation of some types of families (such as the very rich, the very poor, and illiterates) was difficult or impossible to secure; purchases by others than the housewife (or adults) tended not to be recorded; consumption of articles outside the home frequently was ignored; families were continually dropping out of the sample; being on a panel made persons act atypically; merchandise premiums affected purchases made; and, in general, accurate reporting was difficult to obtain. On the other hand, it could be claimed that by using great care in sampling, by providing families with proper report forms and compensation and incentives, by careful selection and pretraining of panel members, and by other statistical and control devices it was possible to secure continued, accurate, normal purchasing reports.

Mr. Plumtree tended to agree with both sides. He was aware that risks went with rewards and that when a new policy obtained benefits, it also created new difficulties. He was fully ready to believe that both systems were practical and reliable, although each no doubt possessed inherent limitations. Differences in cost did not seem important. Although he was concerned with the accuracy of results, particularly as they might

affect "Pomate," he believed that the answer for his company depended primarily on the sorts of information provided.

COMPARISON OF INFORMATION

Mr. Plumtree had asked the vice-president of accounting to have his statistical department prepare a list of the information furnished by each method. In preparing this list, consideration was to be given only to data provided in the basic "package," not to data secured by special methods and extra costs. The resulting list was as follows:

Information Provided Only by Store Audit:

1. Dealer inventories. Stores stocking, amounts on hand, days of supply, and out-of-stocks, by product types, major brands, sizes, and in total. (By use of factory sales records, wholesale stocks can be estimated.)
2. Dealer purchases. Number and size of orders, special purchases, and purchases from manufacturers or wholesalers.
3. Dealer margins.
4. Dealer display. Shelf position, internal store displays, and window displays.
5. Dealer advertising. Newspapers, store signs, sales events.

Information Provided Only by Purchase Panel:

1. Users and nonusers. Families by types and size using major brands, product types, and sizes.
2. Amounts purchased. Frequency of family purchases in units and sizes, average and total purchases, concentration of markets among large and small users.
3. Trends in purchases. Gain or loss of customers.
4. Age and sex of purchasers.
5. Brand loyalty. Amount and character of repeat buying, brand switching, and number of brands used by types of families.

Information Provided by Both Methods:

1. Purchases at, or sales by, retailers by product types, brands, and sizes.
2. Types of outlets for sales or purchases made.

3. Seasonal variations in sales.
4. Regional and city-size breakdowns.
5. Retail prices.

REFERENCES AVAILABLE

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ACTION NEEDED

1. Is there any basis for deciding that one method is inherently better than the other?
2. Can both methods provide accurate data?
3. What facts should determine the use by a company of either or both methods?
4. What should Mr. Plumtree's decision be? Why?

Part III

PLANNING

The General Nature of the Task

The cumulative steps of problem formulation and preliminary investigations culminate in specific, formal plans. The great amount of time often spent in these early stages testifies to the critical importance of the decision-making which is done at the planning stage.

Planning consists of establishing specific purposes, choosing methods for data gathering, preparing all forms needed to gather data, designing a sample,¹ testing plans, and estimating costs.

Specific Tasks and Working Methods

Because planning embraces so many activities, these activities will be discussed separately and in conjunction with methods used in carrying out each separate task.

Specific Purposes. The heart of this process is the final, concrete, written expression of the hypotheses.

Too often problem formulation stops at the intermediate stage of characterizing information which it is *hoped* will be useful. Correct procedure is to decide purposes in terms of *ultimates*—the conclusions and decisions which can be based on specified data.

Although their application is difficult, the methods are simple: written expression of all important hypotheses that have developed, selection of a limited number of these hypotheses, and the clearest possible statement of them.

From such specific purposes it is possible to decide (1)

¹ This part of planning is considered separately in Part IV.

whether or not to continue the study and (2) whether or not the purposes can be satisfied wholly—or partially—with secondary data.

Methodology. Assuming that the project will require primary data, a choice of the method, or methods, to be used is now made.

The three principal methods are survey, observation, and experiment.

The survey methods are by mail, telephone, or personal interview. They also may be classified as to type of data gathered. Thus, Brown² distinguishes between factual, opinion, and interpretive surveys; and Lorie and Roberts³ characterize the data (also obtainable, in part, by observation or experiment) as behavior, intentions, attitudes, knowledge and habits of thought, and “reasons why.”

Observational methods include store audits, pantry inventories, fashion counts, and traffic counts.

Mechanical methods of recording data may be considered as a separate category, as subcategories of the other three methods, or as a form of observation. They may be used in personal interviewing (wire or tape recorders, or lie detectors), in group studies (Lazarsfeld-Stanton Program Analyzer or Hopkins Televote Machine), to record actions (Purdue Eye-camera, Audiometer, Radox), and in many other ways.

No mechanical way of choosing the proper method exists. For many studies there are a number of alternative methods, each of which also might be applied to several different sources of information. A general preference exists for the experimental and observational (including machine) methods because they tend to be more scientific. Unfortunately, these methods often are more difficult to apply (and often impossible) and they tend to be more time-consuming and costly. In fact, the survey method, so often inveighed against, remains as the most common tool of research, and a highly useful one. The researcher should beware, however, of limiting himself to easy, familiar, or

² L. O. Brown, *op. cit.*, pp. 296-302.

³ J. H. Lorie and H. V. Roberts, *op. cit.*, pp. 211-14.

favorite methods. Awareness of the new techniques and the new applications of older techniques is helpful.

Specific consideration of the methods in relation to the data sought often leads to a natural choice. Cost and time factors also may help to determine the appropriate method.

Forms. Forms and schedules used in the collection of data include questionnaires for surveys, schedules or forms for recording observations or experimental data or for recording secondary data, instructions and work schedules for the data gatherers, and letters to respondents.

Questionnaire elements include identification of respondents, explanations, data questions, and request for cooperation. The various problems encountered, or rules for questionnaire construction, deal with such matters as length, sequence of questions, ease of recording answers and making tabulations, spacing, clarity, specificity, and leading questions. (See the annotated bibliography which follows for references on these different aspects.) Most troublesome, perhaps, is the wording of the questions, which includes a choice of question types: free-response or open-end, check-list or cafeteria, dichotomous or yes-no, ranking or intensity-scale, triple-associates, and probing or follow-up questions.

In designing forms the major problems are clarity, compactness, and ease and simplicity of recording data.

Working methods vary widely with individuals. Of primary importance, the researcher must clearly grasp the exact character of the data he is seeking. He also must possess the patience to attempt many alternative wordings of questions (or designs of forms) and continually to revise and select. Almost everything he has learned may prove useful in executing this most challenging job of communication. For the beginner, interest in the process and ability to plan research are acid tests of his prospects for research as a career.

Testing. Testing may relate to the sample, the questionnaire or schedule including the instructions, the interviewers or field staff, or the prospective information itself. For example, testing the production rate of interviewers may avoid serious mis-

calculations as to time and expense. Additional tests can be used to ascertain the adequacy and clarity of instructions which are provided interviewers as well as of the questionnaire itself.

Seldom is it wise to forego a test of the questionnaire or other data-gathering form. Pretesting almost always will reveal defects, and many times very important ones, or suggest improvements that add to accuracy and reduce time and cost.

Of special importance, and particularly so if the full, written expression of specific purposes has been skimmed, is a test of the value of the information obtained. This can be done during questionnaire formulation by anticipating findings. By assuming a range of statistical results, tabulating these data, and then analyzing them, it can be determined if, or how well, the data sought will answer the problems.

Costs. The researcher may have to estimate costs in some detail at the very beginning. With experience and some guessing, this can be done. At other times a budget figure is provided, which serves as a basis for a formal research proposal. In still other cases, detailed cost estimates may be the last stage of planning, carried out as a means of insuring that the project is feasible within the funds allotted.

In any event, data gathering tends to be the most expensive single operation. Until methods are chosen, a sample is designed, and some testing is done, costs are difficult to estimate.

Costs may be computed as out-of-pocket expenses with or without a fee or supervisory salaries, or as out-of-pocket expenses plus 100 per cent in order to cover the general overhead of the agency and allow a profit.

Research Proposals

All the steps discussed so far may be telescoped into a preliminary proposal for a research project. If done without design of forms or any testing, such a proposal may be subject to considerable change. The ability to make a satisfactory proposal in detail depends on the experience and abilities of the researcher. He may utilize considerable secondary data and some preliminary investigations.

Such proposals are not a substitute for the steps so far discussed, although good ones should minimize the time and effort needed later in covering these stages of research.

The Cases in This Part

Case 1, "A Radio Audience Survey," presents the plans made for a study as included in a proposal to the manager. Emphasis is placed upon deciding the specific purposes of the study. The case includes estimates of costs and some sample problems.

Case 2, "Proposed Consumer Market Survey," presents the problems of an independent retailer. Questions of specific purposes are involved, although emphasis is given to methodology, particularly to the adequacy of the tentative questionnaire formulated.

Case 3, "Use of Internal Data for Studying Magazine Merchandising Effectiveness," is a full-scale proposal which presents problems of specific purposes, methods, and sampling. The emphasis is placed on considerations of using internal data.

Case 4, "Methods for Study of Installment Credit," is the last of these cases presenting rather detailed proposals and covering various planning problems. The emphasis is on the choice of methods for gathering the data outlined.

Case 5, "Pretesting a Questionnaire," shows the questionnaire designed, the results of a pretest of this questionnaire, and a revised questionnaire. Designed primarily to provide an example of pretesting, the case can be used to cover many aspects of questionnaire formulation.

Case 6, "Constructing a Readership Questionnaire," provides practice in constructing a questionnaire and a covering letter.

Case 7, "Proposed Questionnaire for an Ice Cream Survey," presents a tentative questionnaire. It can be evaluated in terms of survey purposes and the "rules" of questionnaire construction, or a revision can be attempted.

Case 8, "Getting a Luggage Questionnaire into Shape," focuses on the variety of specific questions suggested for gathering data of specified types. The many details provided permit an examination of the important minutiae of questionnaire formulation.

Case 9, "Following up on a Department Store Study," ranges over many aspects of preliminary investigations and planning. Thus, it presents an opportunity to review earlier steps in the light of planning problems.

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Part III Cases

CASE I—A RADIO AUDIENCE SURVEY

BACKGROUND

The manager of Station WKGP, Philadelphia, believed that a study of the complete station listenership might be valuable. National time buyers, he thought, were not sufficiently convinced of the volume of listening in areas outside the Philadelphia metropolitan area. These time buyers tended to use the wasteful practice, he felt, of buying time from stations in surrounding cities, such as in Baltimore, Wilmington, Reading, Atlantic City, and Lancaster, to reach areas covered by WKGP's signal. In his opinion this resulted in much duplication of programs. Additional time on WKGP, he believed, often would provide better coverage at lower net cost.

The station, however, lacked up-to-date, accurate data on station "circulation" and on duplication of listeners among stations in the area. In early 1951 no regular radio research service was available which provided the data desired.

TYPE OF STUDY CONSIDERED

An engineering survey showed that currently WKGP's signal could be received in more than sixty counties, or parts of counties. These included seven in Maryland, two in Delaware, all in New Jersey except a northern tier, and all in the eastern half of Pennsylvania, except a few adjacent to New York State. Only the *BMB Station Audience Reports*¹ covered this entire

¹ The Broadcast Measurement Bureau was organized in 1945 by the American Association of Advertising Agencies, the Association of National Advertisers, and the National Association of Broadcasters as a nonprofit, cooperative organization. A mail-ballot study of each county in the United States was published in 1946. It contained the number of radio families for each county (and for

area for listenership data useful to Station WKGP. The Spring, 1949, report showed that in twenty-three counties in Pennsylvania, six in New Jersey, two in Delaware, and one in Maryland, at least 10 per cent of all radio families listened at least once each week to a daytime program of Station WKGP. In fifteen counties listenership was over 30 per cent, and in seven counties was over 50 per cent.

Nighttime programs were listened to by more than 10 per cent of radio families in thirty-six counties (one more in New Jersey and three more in Pennsylvania). The total weekly audience in these thirty-six counties for nighttime programs was approximately 900,000. The weekly nighttime audience in Philadelphia County included 80 per cent of the 573,000 radio families. Approximately 40 per cent of the total weekly audience actually listened six or seven days or nights a week.

Useful as the BMB data was, it lacked much detail desired by time buyers. Moreover, the manager felt certain that through technical improvements and new programming the station had increased its listenership greatly in the past two years.

Regular radio research services, such as those of Pulse, Inc., and A. C. Nielsen, Inc., commonly used by time buyers, have many useful data on program audiences and audience composition but not for the entire area covered by the station and not in terms of station listenership. For example, the station had made a number of experiments with short plugs for give-aways or specialty items and had secured a greater number of responses than the total rated audience. These services, therefore, did not meet the problem the manager had in mind.

The manager was impressed by studies conducted annually since 1938 for a station in Iowa ² which, he had been informed,

cities of 25,000 or less, if a station city) and for each station the total weekly audience (number of radio families listening to a station one or more times a week) and the daytime and nighttime audiences. Study No. 2, *BMB Station Audience Report*, published in the spring of 1949, additionally contained listenership for six or seven times day or night, three, four, or five times, and one or two times.

² See, for example, the 1948 *Iowa Radio Audience Survey*, conducted by F. L. Whan, published by the Central Broadcasting Company, Des Moines, Iowa.

were readily accepted by time buyers. In particular, these studies reported a high degree of "out-of-home" listening. Such listening was not covered by regular radio research services and was growing in importance because of television competition.

The Iowa Survey of 1948,³ for example, included questions on (1) station preferences—stations listened to most, stations heard regularly, station liked best for news at major periods of the day, and stations preferred for farm programs; (2) radio ownership; (3) best-liked programs for adult listeners; (4) types of programs liked best; (5) actual listening by half-hour periods and by composition of the radio audience; (6) families owning portable, nonportable, FM, and auto radios; (7) age of sets; (8) amount of time auto radios are used on long trips and on short trips; (9) families with some member regularly hearing a set outside the home and the location of such sets; (10) location of sets in the home; (11) early morning listening by quarter-hour periods; (12) listening from 6 to 7 P.M. by quarter-hour periods; (13) amount of listening to the "beginning commercial" and memory of item advertised; (14) frequency of use of two or more sets at once in the home; and (15) criticisms of program heard.

THE STUDY PROPOSED

In May, 1951, the manager of Station WKGP called in a research consultant. The manager, after discussing the station's problems, requested that the consultant submit proposals for a study along the lines of the Iowa Reports. The proposal submitted is reproduced in part below:

The proposed study would be, basically, a study of the "circulation" of all radio stations giving a satisfactory signal within the service area of WKGP. The primary purpose would be to show radio service coverage and the pulling power of stations. In addition, the study would yield important data on types of programs (but limited, if any, detail on specific program ratings) and comparative data for television and newspapers, all data being considered for their value in selling and buying radio time.

The study would be patterned on the Iowa Radio Audience Surveys,

* *Ibid.*

changed, however, to fit local area interests and problems. Exact changes would be worked out later in cooperation with WKGP and by testing in the field. Tentatively, the following changes are suggested for consideration:

Elimination of data on:

- Age of radio sets owned.
- Farm program listening (except as a type of program).
- Hearing or remembering specific advertising.
- Hearing criticisms against radio.

Revision of data on:

- Age classifications, to include males and females under twenty-one.
- City classifications, to allow city-size summaries.
- Newspaper circulation, to include three local papers for daily and Sunday editions.
- Autos, to include number and get more detail on use.
- Dual listening and out-of-home listening to get more complete data (even on nonradio homes).

Addition of data on:

- Number of persons in family by age groups and total primary listening audience.
- Television families.
- Families using telephone or mail for purchases.
- Cities in which specified shopping goods are purchased.

Most of these changes affect so-called identification data which are economically obtained as a by-product of a survey and which increase the number and value of the summaries possible.

The proper size of the sample to be used to cover the areas lying within the service contours of WKGP depends on three considerations: the statistical accuracy desired, the acceptability of findings to advertisers and their agencies, and the cost.

The Iowa surveys are based on slightly more than nine thousand interviews completed out of, presumably, some eleven thousand to twelve thousand five hundred attempted. This is a far larger number than is needed to survey Iowa as a state, yet county-by-county data for the ninety-nine counties of the state are subject to a considerable margin of error. The study proposed would have the great advantage of covering a smaller number of geographical units. Serious consideration should be given, however, to the need for individual county, or part-of-county, data; for *any* merging of *any* two geographical units will increase

the accuracy of a given sample size or reduce total sample size and cost for a specified degree of accuracy.

Tentatively, it is suggested that a primary sample of approximately eight thousand to ten thousand be considered.

The technique used would be personal interviews supplemented by some form of roster, aided-recall, or diary technique. Pre-coded questionnaires and punch-card tabulation methods would be used both for accuracy and economy.

The elements of cost for a study of the type and scope proposed are estimated as follows:

COST OF SPECIAL STUDY OF RADIO LISTENERS

Activity	Cost	
	Minimum	Maximum
Preparing of questionnaires, pretesting in field, etc. . . .	\$ 500	\$ 750
Printing of interview forms	300	400
Personal interviews at \$1.25 an hour (or less) plus travel	12,000	16,000
Hiring, training, and supervising interviewers	600	800
Sample design and other statistical work	500	500
Editing of returns	250	400
Machine tabulations	400	500
Planning, administration, analysis, and report preparation: the Director's salary	2,000	2,000
Printing the report *	—	—
Secretarial help and miscellaneous	350	500
Total	\$16,900	\$21,850

* Assumed done by WKGP in format and quantity desired.

ACTION NEEDED

Among considerations raised by this proposal were these:

1. Would the eliminations, revisions, and additions of data suggested make it more usable for WKGP? What other changes should be considered?
2. In what sense are identification data by-products of the survey, and how do they "increase the number and value of the summaries possible"?
3. How might the number of sample sub-units be reduced without decreasing the value of the findings significantly?

4. How could "circulation" data be applied to specific time periods or programs when selling, or buying, time?
5. Would the study proposed solve the problems the station manager had in mind, and was it likely to be worth the cost?

CASE 2—PROPOSED CONSUMER MARKET SURVEY

BACKGROUND

The annual sales of the Seldon Department Store were approximately \$400,000, although it was located in an agricultural valley section in a community of less than 3,000. In a sense, Seldon, which was on Main Street, combined three stores. On one side was a former five-and-ten-cent store, or variety store, and the basement and first floor sales area still was used to sell general merchandise and limited price lines (indeed, the familiar red banner of the former store, slightly altered, remained on the store exterior). The middle section of the store was narrower and was used to display and sell women's ready-to-wear. At the other side was a section containing office space which also was used to display and sell major appliances and floor coverings. These had been three separate stores at one time, and had been joined by the expedient of constructing one small doorway in each separating wall. Furniture was both stored and displayed upstairs in rooms which once had been apartments and had never been remodeled. Furniture also was stored, and could be displayed, on the second floor of a building down the street.

In its transition to a department store status, the store had become badly crowded for space. Storage space was limited and poorly located; store walls were jammed with merchandise right up to the high ceilings; aisles were narrow.

The enterprise was steadily expanding its sales volume and profits. The proprietor had sufficient capital and owned land in the rear for a considerable expansion of sales area. Estimates had been prepared of the increase in volume which might be obtained in various lines if these lines were broadened and the

MARKETING RESEARCH

EXHIBIT 1

Questionnaire for Consumer Survey, Department Store

	Town				Other towns (state which)
	A	B	C	D	
1. How far do you live from each of these towns? Number of miles . . .					
2. Approximately how many times have you shopped in each of these towns so far this year? Number of times					
3. In which of these towns <i>during the past 5 years</i> have you purchased the items listed below? (For each item check the town, or towns, in which you made purchases.)					
Furniture for:					
Dining room					
Bedroom					
Living room					
Carpets					
Women's dresses, priced					
at less than \$6.00					
at \$6.00 to \$8.99					
at \$9.00 or more					
Children's clothing					
Men's wear					
Appliances					
Radio or television					
Stove or washing machine					
Other _____					

4. Which of the items listed above have you purchased during the past 5 years by mail order? _____					

5. In which town do you prefer to buy your dresses? (Name of town)					
_____ Why? _____					

6. In which town do you prefer to shop for furniture?

(Name of town) _____ Why? _____

7. Perhaps you would prefer to shop in a different town if the merchants offered better assortments, different store hours, better parking, or some other conditions. To indicate this, please complete the following statements:

A. I would prefer to buy my clothing in _____ (town) if _____

B. I would prefer to shop for furniture in _____ (town)
if _____

C. For most shopping other than for food I now prefer to shop in
_____ (town) because _____

For statistical purposes only: please tell us the following:

I am married _____; single _____; other _____. Check which one.

My husband's age is: Under 25 _____; 25 to 50 _____; over 50 _____.

My husband's occupation is _____. (Your occupation, if not married.)

The number of persons in our household is:

Males under 21 _____ 21 and over _____

Females under 21 _____ 21 and over _____

For sending the gift of _____ to me, please use this address:

Name _____

Address _____

sales area increased. Various ideas for the expansion and remodeling of the store had been developed and a few of these had been incorporated into architectural drawings and estimates of cost.

The proprietor was a man of independent mind who had built the business from scratch. He liked to hire consultants, but often failed to follow their advice, being content with the stimulation afforded to his own thinking and the tests provided for his own developing plans. On this occasion he secured the services of consultants from a nearby city. The consultants were to spend one day in the store discussing plans and records and inspecting the store and then submit recommendations for changes.

Among the suggestions offered was that the planned expansion, which *seemed* desirable, should not be made until after a consumer survey was conducted.

THE PROBLEM

A specific question the proprietor had to decide was whether or not to conduct some such survey as was recommended.

DATA AVAILABLE

The Seldon Department Store had no important competition for its lines from stores in the community. Less than twenty miles to the south, however, in a community with a population of 13,000, there was a sizable shopping district with many modern stores including several furniture stores, women's clothing stores, and chain stores operated by a mail order house and other large organizations. Some thirty miles eastward was a town of 40,000 population, and some forty miles northward was the state capital, with a population of well over 100,000. Evidence suggested that for shopping goods the major competition was with stores in the nearest of those towns and, especially, from the large stores in the capital city.

A major share of the floor space to be added, if the proprietor's basic plan was followed, would be devoted to furniture, clothing, and appliances. A major share of the increase in volume of sales planned would also come from sales of these lines. It

was in regard to this aspect of the contemplated expansion that the consultants suggested it might be wise to take out some insurance in the form of a little consumer research. Appended to the report were rough plans for such a survey. The survey itself would be made by store personnel. Plans included the questionnaire on pp. 76-77, which was to be mailed out to a sample of women in the area.

Suggestions in some detail were given concerning the method of obtaining the proper sample and of checking results. It also was suggested that the company name not be used and that a box in the capital city be rented to receive returns; that women answering the questionnaire be sent a small gift or some thirty or forty cents' worth of stamps, and that if a second mailing was needed, fifteen or twenty cents' worth of stamps might be enclosed with a promise of the remainder on reply; and that the many open-end questions suggested might prove difficult to tabulate, especially for store personnel, even though they were useful question types for exploration. The entire project, it was suggested, might be conducted by the store for an out-of-pocket cost of from \$200 to \$400, a fraction of 1 per cent of the contemplated investment in expanded facilities.

ACTION NEEDED

1. Should the proprietor of the Seldon Department Store accept the proposal to conduct a consumer survey?
2. Would the proposed questionnaire produce the most useful data or should revisions in plans be made?

CASE 3—USE OF INTERNAL DATA FOR STUDYING MAGAZINE MERCHANDISING EFFECTIVENESS

BACKGROUND

The Summit News Company secured a large volume of magazine sales through drugstores, although newsstand sales were large and other outlets were used to distribute magazines. The company was convinced that magazines were highly profitable

merchandise for these drugstores. For example, a study of a small group of drugstores in one region of the country had shown (1) that magazine sales averaged more than 5 per cent of total store sales, (2) that sales of magazines per square foot of space used averaged \$140 annually, compared to \$69 for the stores' sale of all items, and (3) that gross margin per square foot of space used was \$35 annually for magazines, compared to \$20 for all items.

Many drugstore operators, nonetheless, considered magazines as little better than a necessary evil justified only by customer convenience.

Poor dealer relationships and a growing interest in means of increasing magazine volume and profitability in retail outlets led the company to consider a long-range research program.

THE PROBLEM

As originally visualized by the company, the general objective of the research program would be to find the most efficient methods of merchandising magazines in drugstore outlets. This would be done by retail studies and would include a complete appraisal of dealers' attitudes toward handling magazines.

QUESTIONS TO BE ANSWERED

Among the more specific questions the managers of the company had in mind were:

1. What kind of display racks should be used in drugstores in various volume classifications?
2. What sizes of racks should be used in each?
3. What determines the best location for the rack, or racks, used?
4. How many titles should be carried by each store?
5. How should the titles be selected?
6. What determines the best display or positioning of the titles carried?

In addition, the company thought that marketing research should be used (1) to develop standard operating statistics for

good magazine departments and (2) to study magazine consumer buying habits.

One of the specific problems which arose later concerned the type and amount of research, if any, to be conducted, based entirely or primarily on existing records. Indeed, this became the key problem in the consideration of using research.

DATA AVAILABLE AND THE PROGRAM PROPOSED

Magazines for sale over-the-counter in single copies were distributed by the Summit News Company under a consignment system. This permitted each publisher to decide how many copies of each issue should be put on the stands in each market. The local distributor allocated the number set by the publisher among individual dealers. From time to time during the life of each issue, routemen redistributed the copies among dealers as they ran short or were found in oversupply.

Dealers, including drugstore owners, accepted this arrangement, under which they had no control over their quota, because they were permitted to return all unsold copies for full credit. Each dealer paid the distributor for the copies he actually sold (as measured by the difference between his "draw" and his return). Similarly, the local distributor paid the national distributor, and the national distributor paid the publisher, for the difference between the number of copies sent out and the returns.

A private consultant was hired to draft a detailed proposal for a long-range research program, together with budget estimates and a time schedule.

In brief, the proposals made envisioned three broad types of research. The first type would rely primarily on available records kept by the distributor. The second type would require the keeping of special records by drugstores or the actual observation of sales persons and customers at the point of sale. This might include both direct observation experimental techniques and the use of the techniques of cost allocation. The third type of research would involve interviews with consumers and with dealers.

In more detail, these possible projects were suggested:

PROJECT 1

SUGGESTED STATISTICAL ANALYSIS
OF THE SALE OF MAGAZINES IN DRUGSTORES

- I. Objective: To test through correlation analysis the effectiveness of methods used to sell magazines in drugstores.
- II. Types of questions to be answered.
 1. What effects do differences in methods of displaying, promoting, and selling have on volume, cost, and profit in the marketing of magazines by drugstores?
 2. How do the various types of stores, when classified by such factors as size, location, organization, and lines sold, differ in their effectiveness as distributors of magazines? Why?
 3. How widely, and by what means, can all stores imitate the most effective ones?
 4. Why do some individual stores excel other stores of the same type in selling magazines?
 5. What types of racks are best suited to what types of stores?
 6. What assortments of magazines are proper for different types of stores?
 7. What types of stores are most profitable to the distributor?
 8. What stores serve the consumer most effectively?
- III. Methods of study.
 1. A detailed study of distributor records for a sample group of stores.
 2. A restricted survey of at least part of the stores in the sample to obtain classification data.
 3. Correlation analysis of the data gathered.
- IV. Sample to be studied.
 1. A sample representative of all drugstores served in the . . . metropolitan area as a whole.
 2. A sample representative of appropriate subdivisions of the area.
 3. A sample large enough to permit selection from it of subsamples and test groups for subsequent field surveys and experiments.
- V. Data to be gathered from distributors' records for each store in the sample.
 1. Magazine assortments handled.
 - a) Full assortment.

- b) Minimum assortment.
- c) Special assortments.
- 2. Sales volume, in dollars and units.
 - a) Total for all magazines.
 - b) Totals for particular assortments or classes.
- 3. Gross margin, in dollars and as a percentage of sales.
 - a) Total for all magazines.
 - b) Totals for particular assortments or classes.
- 4. Sales over the life of any selected issue, or issues, for selected titles.

VI. Other data from distributors' records.

- 1. Total sales margin in dollars and as a percentage of sales, total expenses, and expense breakdowns.
- 2. Prices of individual magazines and margins on each in dollars and as a percentage of sales.
- 3. Draws, sales, and returns for individual magazines and classes of magazines.
- 4. Percentage of total draws, sales, and returns represented by individual magazines and classes of magazines.

VII. Data to be gathered from distributors' records or from maps when possible, otherwise by a physical inspection of stores and, possibly, by use of a simple questionnaire.

- 1. Classification of each store by location.
 - a) By route.
 - b) By counties, city divisions, or other appropriate areas.
 - c) By downtown, shopping centers, neighborhood, and so on.
- 2. Classification by ownership organization.
 - a) Chain.
 - b) Independent.
 - c) Voluntary chain.
- 3. Classification by service rendered to the store.
 - a) By frequency of calls by routemen.
 - b) By provision, acceptance, and use of display aids.
- 4. Classification by display facilities and methods.
 - a) Type of racks.
 - b) Number of racks.
 - c) Size of racks.
 - d) Location of racks.
 - e) Positioning of titles on racks.

- f) Ratio of magazines sold to magazines displayed.
- g) Scheduling of displays.
- 5. Classification by size of stores' sales of all goods.
- 6. Classification by lines of goods handled other than magazines.
- 7. Classification by ratio of amount of sales to space used.
 - a) Total space.
 - b) Space used for magazines, amount and as percentage of total.
- 8. Classification by miscellaneous factors.
 - a) Hours open.
 - b) Type of trade (transient, neighborhood, and so on).
 - c) Incomes of patrons.
 - d) Patronage by special groups (occupation, race, religion, nationality, and so forth).
 - e) Value of magazine stock carried.
 - f) Methods of handling small-circulation magazines.

VIII. Examples of questions for which answers should be sought and the breakdowns of data that might be used in the analysis.

1. What variation is there in the annual volume of magazine sales of these outlets?
 - a) Number of outlets and percentage of total selling, say, up to \$1,000, \$1,001 to \$10,000, and so on.
 - b) Average and median size for all stores and for each size group.
 - c) Reasons for the variations.
2. What proportion of total distributor volume comes from each size group?
3. What is the relation of assortments carried to the volume of sales?
4. How many and what sorts of stores are not carrying proper assortments?
5. What is the relation between sales facilities and volume of sales?
 - a) Sales volume by number, type, size, and location of racks.
 - b) Sales volume by kinds of display policy followed.
6. How many and what sorts of stores are not provided with proper racks?
7. What types of stores secure the highest (and lowest) sales per square foot of space devoted to magazines?
8. How does the rate of sale over the life of an issue vary as among stores?

9. What significant differences are there in volume and assortment of sale at different types of location?
10. What relationship is there between magazine assortments carried and types of stores?

PROJECT 2

EXPERIMENTAL TESTING OF SALES VARIABLES

Objective: To hold variables constant while changing singly the various factors to be tested to discover the effect on sales of different racks, different size racks, different locations of racks in stores, different assortments, different display methods, and different sales methods.

PROJECT 3

DISTRIBUTION COST STUDY OF OUTLETS

Objective: To discover the relative profitability of different types and sizes of stores and the functional costs of handling accounts and to establish standards of expense and profitability by assortments and the unit or volume sales of titles.

PROJECT 4

CONSUMER INTERVIEWS

Objective: To discover the numbers and types of persons who buy magazines at stores, how often, for what reasons, with what store preferences, and so on.

PROJECT 5

SURVEY OF DEALER ATTITUDES

Objective: To determine dealer attitudes toward handling magazines, distributor organization, methods, personnel, services, display aids, expansion, and so forth.

PROJECT 6

COMMODITY COST STUDY IN DRUGSTORES

Objective: To discover the profitability to stores of sales of different types of magazines.

ACTION RECOMMENDED

The company had to reach a decision regarding the desirability of launching the research program. A good deal of difference of opinion existed as to how worth while Project 1 in particular might be to the company.

Operation on consignment is possible only because the distributor keeps detailed and up-to-date records on each dealer. As a matter of routine these records reveal such facts as these for each important magazine individually and for each group of the less important ones: the number received, sold, and returned for each individual issue; the price paid for each issue; the total amount paid for all copies of each issue; and the rate at which each issue has sold during its life.

The officials most closely connected with these operating data felt they already utilized them to the fullest extent feasible. They pointed out that declining sales at particular stores or on particular routes or for particular titles could be detected readily. Since the prices consumers paid for magazines were set by the publishers, and there was no problem of retailers' selling at cut prices, gross margins for titles, per issue or over a period of time, and for dealers were easily obtained.

It was argued, therefore, that although researchers would have to familiarize themselves with the types of records kept and the methods of operation, this was simply "education" of persons unfamiliar with the business. This "education" should be minimized to save money. What was needed was not to play statistical tricks with figures already available, but to gather new facts important to better merchandising of magazines.

Other officials felt that statistical analysis was the proper first step in the research program. Not only would it be worth while in itself, but it also would be helpful both in determining the specific experimental studies to make and also in establishing them.

ACTION NEEDED

1. What are the merits and defects of the general proposal and the tentative plan for a statistical analysis of records?

2. Are the methods proposed well adapted to the specific purposes stated?

CASE 4—METHODS FOR STUDY OF INSTALLMENT CREDIT

BACKGROUND

A public-spirited, influential businessman had become concerned after World War II with the problems of installment credit encountered in his field of business and in national affairs. Installment credit, he believed, had become far more than a matter of purely monetary policy for both business and government. Yet data on the economic and social aspects of installment credit were spotty and few. Being accustomed to using marketing research, he secured the services of a consultant to formulate proposals for a broad study, hoping that the new American Foundation, Inc., or some other foundation or business group, might be interested at some later time in conducting it.

Three alternate techniques for conducting such a study were proposed.

A. SURVEY METHOD

The first, and relatively most simple, method proposed was a survey of consumers accompanied by an inventory of their consumer durables. The main purpose of this operation would be to disclose the extent and nature of durable goods purchased on the installment plan possessed by families of various types.

Data to be Gathered:

1. Characteristics of respondent families, by age, sex, income, occupation, education, and nationality of members, home value or rental and year obtained, year married.
2. An inventory of a specified list of durable goods supplemented by information on price, make, model, age, month and year purchased; new or used purchase; make, model, age and value of trade-ins, if any; how bought; period and payment rate if installment purchase.

3. Installment buying, other than for specified durables, as to items bought, last purchase dates, period and amount of installment payments.
4. Income(s) for years in which durables purchased and occupation(s), if different from present.
5. Finances: mortgage, insurance, other assets and obligations.
6. Future plans for purchase of the specified durables.
7. Attitudes toward durable goods ownership and buying on time; related domestic or housework problems and other needs, entertainment and social use of durables.

Objectives: Problems for Analysis:

1. Influence of individual and family characteristics on the installment purchase of durable goods (by individual characteristics, multiple correlation, and identity with established socioeconomic groups).
2. Number of installment buyers and nonbuyers, total and by types of durables.
3. Number and characteristics of habitual vs. infrequent installment buying families.
4. Kinds and total of durables owned.
5. Percentage in units and dollars of financed durables to total durables, original and depreciated prices.
6. Rate of accumulation of durables owned and relation to financing used.
7. Used durables purchased, type, total, percentage of all durables, and differences in financing new and used goods.
8. Types, ages, and values of trade-ins and relation to items bought and type of financing.
9. The percentage of weekly (or monthly) income "mortgaged"; the peak, low point, and average weekly obligations during the year, installment debts, and all debts.
10. The value of owned durables, and financed durables, as percentage of total assets and ratio to liquid assets.
11. Percentage of total income spent on durables, current and past years, and by types of durables and financing.
12. Ownership of durables, total and by types, by regions and city sizes.
13. The relation of installment durables to standards of living, family events, attitudes toward installment buying, social and entertainment uses of durables.
14. Future expectations by types of durables and in total, in relation to present holdings, financing methods, and income.

Limitations:

Respondent cooperation will be difficult to obtain, especially among some groups, although payment for cooperation should minimize the problem. Inaccuracies caused by memory loss and bias, particularly on dollar amounts, can be expected; but these could be reduced somewhat by various techniques and by using dealer records to check prices and values. Although the data will be better than those from past studies, life-cycle data will be incomplete. Probable cost would exceed \$50,000. A pretest probably should be made first on a local scale to iron out interviewing and statistical problems and to arrive at a better idea of the type of results that could be obtained by using this method.

B. CONTINUOUS CONSUMER PANEL METHOD

The second method proposed was the use of a continuous consumer panel, perhaps as a special client of one of the panels now operating. Although the most costly and long-range type of study, it would seem to promise the best and fullest results.

Data to be Gathered:

- 1 and 2. Same as for survey method.
3. Weekly mailed records covering changes in family status and income, purchases and commitments for durables in some detail, payments on durables or loans, family members shopping for durables, types of stores at which purchased, disposal of durables other than by trade-ins, and car mileage.
4. Periodic reports on buying expectations.
5. Special data from follow-up inventories or interviews to explore behavior patterns revealed by other data.

Objectives: Problems for Analysis:

- 1 to 14. Same as for survey method.
15. Expectations vs. later actualities.
16. Types of stores at which durables were purchased.
17. Shopping behavior of families buying durables.
18. Variations in installment payments by years, seasons, types of goods, family-cycle stages, and income changes.
19. Replacement and use cycles for durables and relation to financing means and accumulated investment in durables.

20. Net changes in depreciated value of durables, as per cent of income earned, expended, and committed, and of savings.
21. Measurements of consumer holdings other than by dollars.
22. Possession of durables as deterring or facilitating purchases of other durables, in total and by types.
23. Delinquencies of various kinds, their causes, and action taken.
24. Determination of appropriate time periods for analysis of durable goods purchases and use patterns.
25. Relation of installment buying to other choices of families and the determinants of choice.

Limitations:

Such a study would have to be continued for several years to be fruitful, and, ideally, should cover a full business cycle. Annual cost might exceed \$100,000, in addition to cost of the opening survey. Time and cost are the principal limitations, although turnover of members and other problems of panel operations would also be encountered.

C. CASE HISTORIES METHOD

The third method proposed could be used alone or in combination with Method 1 or Method 2. It contemplates the gathering through long, repeated interviews with husbands and wives of as complete case histories as possible on the purchase, use, and financing of automobiles (or any other single durable) during the lives of family members. The data to be gathered and the objectives, or problems for analysis, would be similar to those outlined for the first two methods.

ACTION NEEDED

1. If the installment credit project is undertaken, which of these methods should be preferred, and why?
2. To what extent would each method help to answer such questions as these:
 - a) How is installment credit employed during the life cycle of individuals and families?
 - b) In what ways do the purchases of installment durables relate to specific needs of families, to the peaks and valleys of these needs, and to the flow of income as contrasted to

the expectations, or realities, of these needs and the burden of postponing consumption?

- c) What is the extent and importance of consumer holdings of installment durables as savings and investments? How do families accumulate such holdings? How is their acquisition related to other assets, or savings?
- d) What is the function of the depreciated (trade-in) value of installment durables in dividing total stocks, in sustaining demand over time and during business cycle changes, and in accumulating personal—and national—wealth?
- e) How does installment credit fit into the management of family finances, and with what benefits and dangers?

CASE 5—PRETESTING A QUESTIONNAIRE

SMALL ACCOUNTS PROBLEM

The Langdale Department Store, with a volume of sales of several tens of millions of dollars and with approximately 300,000 charge account customers, was disturbed about the large number of small accounts. A sample taken of accounts by size had shown that nearly half of them averaged less than \$1 a week.

A customer survey was authorized to ascertain the reasons for the existence of so many small accounts. It was expected that this information might lead to remedial action.

HYPOTHESES USED

Because the store knew very little about its customers except for their number, their total cash and credit expenditures as a group, and their addresses, the basic problem appeared to be one of characterizing small (and large) customers. Ten possible reasons for customers spending only limited amounts at the Langdale Department Store were formulated. These were:

1. *Income.* Low income families may make up the bulk of small accounts.
2. *Family size, composition, type.* Smaller families may buy less. Sex, age, nationality, and home ownership might influence size of purchases.

EXHIBIT 1

Study of Department Store Accounts

1. About how long have you lived in (city)? Years ____; Life ☐ N.A. ☐
2. Which member of your family, in this household, does the most shopping in downtown department stores? Verbatim Ans. _____
Also classify the answer:

Male ☐
Self ☐; All ☐; More than half ☐; Shares ☐; Other ☐; Female ☐
D.K. ☐

3. What other family members, in this household, also bought in any of these downtown department stores in the past year? *
Self ☐; Husband ☐; Son ☐; Daughter ☐; Others ☐☐☐☐; D.K. ☐
4. Have you, or has any other family member in this household, ordered any goods from these stores by telephone in the past year? Yes ☐ No ☐
D.K. ☐
If yes, ask: At which store, or stores? Enter store initials _____ D.K. ☐
5. A.—At which of the five stores, if any, do you or other members of your family, in this household, have a charge or credit account?
G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐; None ☐; D.K. ☐
B.—About how many years ago were each of these accounts opened?
G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐. (Enter years or D.K.)
C.—How many members of the family, in this household, make charges on these accounts? Number _____; D.K. ☐
D.—Have any friends, or relatives outside the household, used any of these accounts in the past year? Yes ☐; No ☐; D.K. ☐
If yes, ask: Which accounts? G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐
D.K. ☐
6. Are there any charge accounts in these 5 stores which the entire family in this household has definitely stopped using? Yes ☐; No ☐; D.K. ☐
If yes, ask: In which stores? G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐; D.K. ☐
7. Including both cash and credit purchases, at which of these 5 stores would you estimate your family had done the most buying in the past year?
Most? (1) ____; Next most? (2) ____; Next most? (3) ____; Next most? (4) ____;
Least? (5) ____; D.K. ☐
8. In the past year has your family bought more for cash than for credit at:

	More	Less	About same	D.K.
Greens?				
Langdale?				
Sardon?				
Scier?				
Taskers?				

* Interviewer instructions called for the respondent to be handed a flash card with an alphabetical list of five stores before asking question No. 3.

9. A.—Do you feel personally that a charge account offers you any special convenience or advantage? Yes ☐; No ☐; D.K. ☐
If yes, ask: What conveniences or advantages? _____

- B.—Do you feel personally that a charge account causes you any special inconvenience or disadvantage? Yes ☐; No ☐; D.K. ☐
If yes, ask: What inconveniences or disadvantages? _____

10. Do you pay your charge accounts—In person ☐? By check ☐? By money order ☐? or by some other means ☐? (Describe) _____. D.K. ☐

11. A.—Do you read any (city) newspapers? Yes ☐; No ☐; D.K. ☐
If yes, ask:

How often: Which ones?

Sunday only?

Weekdays only?

Daily including Sunday?

Bugle	News	Star	D.K.

- B.—Do you read department store ads before going downtown shopping?
Yes ☐; No ☐; D.K. ☐

If yes, ask: which store ads? G ☐; L ☐; Sa. ☐; Sc. ☐; T. ☐; All ☐ D.K. ☐

- C.—Which store do you think:

Has the most reliable ads _____; D.K. ☐

Has the least reliable ads _____; D.K. ☐

Offers the most good bargains in its ads _____; D.K. ☐

Offers the fewest good bargains in its ads _____; D.K. ☐

12. Which of the 5 department stores do you think:

Has the most courteous and helpful sales persons? _____; D.K. ☐

Has the least courteous and helpful sales persons? _____; D.K. ☐

Has the most pleasing appearance inside? _____; D.K. ☐

Has the least pleasing appearance inside? _____; D.K. ☐

Gives you the most value for your money? _____; D.K. ☐

Gives you the least value for your money? _____; D.K. ☐

Offers you the best all-around services? _____; D.K. ☐

Offers you the worst services in general? _____; D.K. ☐

13. A.—In which store do you find it easiest in general to locate and inspect the goods you wish to see?

G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐; D.K. ☐

- B.—In which store do you find it hardest in general to locate and inspect the goods you wish to see?

G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐; D.K. ☐

14. Are there any certain items, or types of goods, which you *almost always* would go to get at:

Greens? Yes ☐; No ☐; D.K. ☐; If yes: Ask: Which? _____

Langdale? Yes ☐; No ☐; D.K. ☐; If yes: Ask: Which? _____

Sardon? Yes ☐; No ☐; D.K. ☐; If yes: Ask: Which? _____

Scier? Yes ☐; No ☐; D.K. ☐; If yes: Ask: Which? _____

Taskers? Yes ☐; No ☐; D.K. ☐; If yes: Ask: Which? _____

15. Are any members of your family employed in one of these 5 department stores:
 Yes ☐; No ☐; N.A. ☐ If yes: Ask: Which store or stores? _____
 N.A. ☐
16. Which one of these five department stores is your favorite?
 G. ☐; L. ☐; Sa. ☐; Sc. ☐; T. ☐; D.K. ☐
 Why do you like this one (these) best? _____

IDENTITY (Be sure to complete this section)

- Name of respondent _____
 Address _____
 Estimated age of respondent: 24 or under ☐; 25-34 ☐; 35-44 ☐; 45-64 ☐;
 over 64 ☐
 Ask: How many members in your family in this household under 19 _____;
 19 or over _____; Total: _____
 Would you mind telling me in which of these groups the family income
 belongs:
 \$30 or under per week ☐; \$31 to \$40 ☐; \$41 to \$50 ☐; \$51 to \$70 ☐;
 \$71 to \$100 ☐; over \$100 per week ☐; N.A. ☐
 Interviewer's name _____
 Date of interview _____

3. *Geographical location.* Distance (and travel time) might create resistance to purchases in the downtown city area and reduce frequency of shopping.
4. *Shopping habits.* The greater the number of charge accounts, or stores patronized, or shopped, the smaller may be expenditures at this store.
5. *Retail expenditures.* Customers buying mostly for cash, patronizing mostly small stores, chains, or secondary shopping centers, and those who spend relatively little in department stores may have small accounts.
6. *Trends in charge buying.* Small accounts for any given year might be small because few if any big-ticket items happened to be purchased that year by many customers.
7. *Days and hours for shopping.* Some customers may have difficulty in shopping during regular store hours.
8. *Newspaper reading.* Low exposure to newspaper advertising by the store may result in small accounts.
9. *Specialized buying.* Persons who view the store favorably only for a few types of goods might be small buyers.

10. *Attitudes.* Unfavorable attitudes toward store prices, quality, or services might restrict purchases.

THE QUESTIONNAIRE DESIGNED

Based on these hypotheses and the results of preliminary investigations, both internal and external, the questionnaire on pp. 92-94 was designed.

THE PRETEST RESULTS¹

Interviewers were sent into widely scattered sections of the city. Names and addresses of store customers in the designated areas were provided, although some interviews were made with noncustomers.

For the 198 interviews completed, the interview time averaged 25 minutes, the median time was 25 minutes, and the range was from 12 to 35 minutes. Only 18 interviews lasted 30 minutes or more; two were not completed because of respondent fatigue.

Question 1: The opening question worked very well.

Questions 2 and 3: These were troublesome. Interviewers reported and the questionnaires revealed difficulty in classifying answers. Respondents seemed to get confused. Forty respondents were reported as answering they did most of the shopping and fifty-two as saying all, but nineteen of the latter then reported other family buyers in Question 3. Thirty-three families were reported as having one buyer, one hundred ten as having two, and forty-seven as having three or more. How could classification be improved? Was a cross-check needed?

Question 4: Nearly half of respondents reported telephone buying and (even more unexpectedly) the great majority of these reported telephone buying in two, three, four, and even all of the five stores listed. Numerous persons volunteered reasons for such buying.

¹ For pretesting techniques, see A. B. Blankenship, *op. cit.*, pp. 82-97; L. O. Brown, *op. cit.*, pp. 483-85; and D. J. Luck and H. G. Wales, *op. cit.*, pp. 170-72. Only questionnaire aspects are reported for this case.

Question 5: A few respondents indicated that more than one family member had an account at a specific store. One interviewer felt that answers to 5B were vague and another pointed out that 5C was a generality.

Question 6: Respondent answers included: No, 158; Yes, 20; DK, 20. An interviewer, several of whose respondents had answered Yes, suggested that a *Why* question be added.

Question 7: Difficulties in ranking respondents who purchased at all five stores, or at three or four of them, were reported, but few respondents failed to answer.

Question 8: The first two columns ("More" and "Less") seemed confusing; it was suggested that questions 5A and 7 really covered the same ground; a "None" column appeared desirable; and it was suggested that the question be restricted to stores at which accounts had been reported.

Question 9: More than five times as many respondents answered No to 9B as answered Yes. *Don't Knows* ran heavy. Nearly all persons answered Yes to 9A and a majority of these gave one reason.

Question 10: Very few respondents reported other means of paying accounts; many reported using more than one.

Question 11: The word "reliable" bothered both interviewers and respondents, "truthful" seeming to be the most common interpretation by respondents. *Don't Know* answers ran almost to 50 per cent and were twice as high for "least reliable" and "fewest good bargains" as for alternate questions. Interviewers were troubled at reporting highly infrequent readers of newspapers or ads under Yes.

Question 12: Most respondents were reluctant to answer in terms of "worst" or "least." The question was boring and caused respondents to show irritation. A great many respondents were of the opinion that all stores were equal in terms of questions asked.

Question 13: No particular problems. The question was raised as to why this question was separated from Question 12 and why answers were to be recorded in different fashion.

Question 14: No apparent problems.

Question 15: Numerous respondents reported no members now employed but that one or more had worked in one of the stores at some time.

Question 16: Answers willingly given. Considerable diversity in reasons reported. Two interviewers reported poor interviewee reactions because question was repetitious.

Identity Section: Apparently satisfactory. Refusals to answer income question were few but were more numerous among those interviewers reading the income groups than those handing the respondent a typed card.

THE REVISED QUESTIONNAIRE

Following the pretest the questionnaire was revised. The new questionnaire proposed was as given on pp. 98-100.

ACTION NEEDED

A final questionnaire conference was scheduled after revisions had been made. Among the questions which the research director wished to raise with staff members (after they had individually gone over both the pretest results and the revised questionnaire) were these:

1. Is another pretest necessary because of the number and type of changes made?
2. Is the new questionnaire too long? If so, how might it be shortened: by draftsmanship? by rephrasings? by omissions?
3. Can the sequence of questions be improved?
4. Are the changes justified? Are they the best that can be made?
5. Can interviewers read the questions easily and tabulate answers quickly and accurately? Is phrasing and spacing satisfactory?
6. Are there any subjects omitted which should be included? Are present additions justified?

EXHIBIT 2

A Study of Department Store Accounts

1. About how long have you lived in (city)? YEARS ☐; LIFE ☐; D.K. ☐
2. Which member of your family, in this house, does the most shopping in downtown department stores? RESPONDENT ☐; OTHER (IDENTIFY) _____ DOES ALL ☐; DOES MOST ☐; SHARES EQUALLY ☐; D.K. ☐
3. What other family members, in this house, also bought in any of these 5 downtown department stores in the past year? * IDENTIFY EACH MEMBER: _____ NONE ☐; D.K. ☐
4. A—Have you, or has any other family member in this house, ordered any goods by telephone in the past year? YES ☐; NO ☐; D.K. ☐

	G	L	Sa	Sc	T	None	DK
B—If YES, ASK: At which stores?							
C—Do you buy all ____, more than half ____, or less than half ____ of your department store purchases by telephone? D.K. <input type="checkbox"/>	X	X	X	X	X	X	X
5. A—At which of the 5 stores, if any, do you or other family members, in this house, have a charge or credit account?							
B—About how many years ago were each of these accounts opened? ENTER YEARS							
C—How many members of the family, in this house, have made charges on these accounts in the past year? TOTAL NO. ____ D.K. <input type="checkbox"/>	X	X	X	X	X	X	X
D—Have any friends, or relatives outside the house, used these accounts in the past year? YES <input type="checkbox"/> ; NO <input type="checkbox"/> ; D.K. <input type="checkbox"/>	X	X	X	X	X	X	X
If YES, ASK: Which accounts?							
6. Are your charge accounts paid in person <input type="checkbox"/> ? by check <input type="checkbox"/> ? or by money order <input type="checkbox"/> ? D.K. <input type="checkbox"/>	X	X	X	X	X	X	X
7. Including cash and credit purchases, at which of these stores has your family done the most buying in the past year? Next most? etc. RANK ALL 5.							

* Flash card with five store names shown.

8. In the past year has your family bought more for cash or credit at:

	All for cash	More for cash	About same	Less for cash	No cash	No. Pur- chase	D.K.
Greens?							
Langdale?							
Sardon?							
Scier?							
Taskers?							

9. A—Before going shopping do you nearly always ☐, sometimes ☐, or very rarely ☐, read department store ads? D.K. ☐ NEVER ☐
 B—In terms of getting wanted information about goods, feeling sure there will be a stock left when you get there, and that the goods will really be “as advertised,” which store’s ads do you feel are most reliable _____?
 D.K. ☐ least reliable _____? D.K. ☐ ALL SAME ☐
 C—Which store offers the most good bargains in its ads _____?
 D.K. ☐ the fewest good bargains _____? D.K. ☐; ALL SAME ☐
 May I also have your personal opinion on a few matters concerning the ease, pleasure, or efficiency with which you can buy at different stores?

10. How would you rank these 5 stores in relation to:

A—The courtesy and helpfulness of sales persons?

B—The appearance of the interior of the store?

C—The ease of locating and inspecting the goods you wish to see?

D—The services (such as, adjustments in returns, delivery, lunchrooms, and restrooms) given you?

E—Being able to get the most value for your money?

G	L	Sa	Sc	T	D.K.

11. Are there any items, or types of goods, which you *almost always* would go to get at:

Greens? YES ___; NO ___; D.K. ___ IF G _____

Langdale? YES ___; NO ___; D.K. ___ YES, L _____

Sardon? YES ___; NO ___; D.K. ___ ASK: Sa _____

Scier? YES ___; NO ___; D.K. ___ WHICH? Sc _____

Taskers? YES ___; NO ___; D.K. ___ T _____

12. Are there any members of your family now employed, or recently employed, in any of these 5 department stores? YES ☐ NO ☐

YES, Recently ☐; NO ☐; D.K. ☐

If YES, ASK: Which one (or ones)? INITIALS _____ D.K. ☐

13. Which one of these 5 department stores is your favorite? _____ D.K. ☐

Why do you like this one (these) best? _____

IDENTITY (PLEASE BE SURE TO COMPLETE THIS SECTION)

NAME OF RESPONDENT _____

ADDRESS _____

ESTIMATED AGE: 24 or less ☐; 25-34 ☐; 35-44 ☐; 45-64 ☐; over 64 ☐ASK: How many members in your family, in this house, are under 19 years of age ____? D.K. ☐; are 19 years old or older ____? D.K. ☐GIVE INCOME CARD TO RESPONDENT. ASK: Would you please tell me in which letter group your *family* income falls? GROUP _____ D.K. ☐ N ☐ W ☐N.A. ☐

INTERVIEWER'S NAME _____

DATE AND HOUR OF INTERVIEW _____

REMARKS: _____

CASE 6—CONSTRUCTING A READERSHIP QUESTIONNAIRE

BACKGROUND

In 1946 a survey was undertaken for the *New York Times* by a private research organization to determine which of a group of well-known newspapers and magazines are read regularly, and which are preferred, by persons in a number of selected occupations. The group included editors of daily newspapers throughout the country, public officials throughout the nation, college presidents, and clergymen. The newspapers and magazines included in the survey were as follows:

Newspapers:

New York Times— weekday and Sunday editions separate

New York Herald Tribune— “ “ “ “ “

Chicago Tribune— “ “ “ “ “

New York Sun (this, as well as the following papers, had a week-day edition only)

New York World-Telegram

Wall Street Journal

Journal of Commerce (Chicago)

Journal of Commerce (New York)

Magazines:

Nation's Business
Newsweek
Time
United States News
Business Week
Fortune

Two specific questions were to be answered from the survey, one on regular readership of these newspapers and magazines, and one regarding the respondent's first and second order of preference among those newspapers and magazines that he did read regularly. It was decided not to ask for any classifying information on the questionnaire, though breakdowns were to be compiled by region and by occupation. Data on the former could be obtained from the postmark, and occupational identification, it was thought, could be obtained through the use of some sort of code with the questionnaire.

Mailing of the questionnaire was to be made more or less at the same time to several hundred persons in each of the occupations selected for study. Names and addresses were secured from various trade directories and other lists of people in the specific occupations. Because of the brevity of the questionnaire, it seemed feasible as well as more convenient to have the covering letter on one side of a sheet of paper and the questionnaire on the other side. This meant, however, that the respondent's name and address would be known if the questionnaire were returned. It was thought, nevertheless, that possible non-response because of this reason would be very small if it were stressed somewhere that individual identities would not be used in any way.

THE PROBLEM

It was naturally desired to devise a covering letter and a questionnaire form that would maximize the response rate. Since nearly all the occupations covered were of the sort that would give the sample members very little time to spare, it was important to make the covering letter and the questionnaire short

and to the point. Other devices to increase the rate of response were also sought, particularly since the schedule for the survey did not allow for follow-up mailings. Thus, should a separate covering letter be designed for each occupation, or should one form of letter be employed throughout?

A coding method was also needed to distinguish between the various occupations, or should this be dispensed with and identification made from the names of the respondents on the covering letter?

A final problem concerned the order of listing the newspapers and magazines on the questionnaire. According to similar surveys in the past, there was some reason to believe that the newspaper or magazine given top listing in its respective group might have some advantage over the others. If that were true, what order of listing should be used?

ACTION NEEDED

The following things remained to be done before this survey could be launched:

1. Write a covering letter, or letters.
2. Prepare the questionnaire form.
3. Suggest any other means to be used for raising response rates.
4. Devise a method of coding occupations, if a code were used.
If not, explain why not.
5. Specify a procedure for avoiding possible bias caused by the order of listing of the newspapers and magazines.

CASE 7—PROPOSED QUESTIONNAIRE FOR AN ICE CREAM SURVEY

BACKGROUND

The Lee Dairy Company did not have a marketing research staff. The sales manager, however, made occasional use of graduate students from schools of business. Through one of the schools in the area he hired a student, Henry Lodge, on a tem-

porary, part-time basis to plan and conduct a survey on ice cream flavors.

THE PROBLEM

The sales manager explained that he wished to survey consumers in the city regarding the selection and use of different flavors of ice cream. The Lee Dairy Company produced from sixteen to twenty-seven different flavors, the number depending on the season. Of these, only vanilla and chocolate were consistently large sellers, although the total volume sold of other flavors was substantial. Sales by flavors varied considerably among neighborhoods and outlets.

The sales manager believed that the company could gain greatly were it able to increase the number of flavors of Lee Ice Cream which the average retail distributor carried. Equally important, however, was the need to provide route salesmen with more information on consumer preferences and habits regarding ice cream flavors. Although the problem of flavors could not be divorced completely from pricing, point-of-sale displays, and other merchandising considerations, or from competitive factors, the competitive factors were not considered important at the moment. Basically, it was desired to secure whatever relevant data were obtainable on consumer purchase and consumption of ice cream flavors that would aid salesmen in selling drugstores, food stores, and other retail outlets more effectively. Some of the information, of course, would be passed on to retailers to aid them in doing a better sales job.

The sales manager said that he expected about three hundred to four hundred personal interviews to be made with housewives in the city. The sample design was up to Mr. Lodge, who also was expected to hire whatever interviewers he needed to help him. The manager suggested that Mr. Lodge mull over the problems, arrange his plans, construct a questionnaire, then talk with him again before proceeding further.

THE PROPOSED QUESTIONNAIRE

Two weeks later Mr. Lodge returned with the following questionnaire, reproduced in full:

EXHIBIT 1

Questionnaire for an Ice Cream Survey

1. What is your favorite brand of ice cream? _____
Why? _____
2. Would you go very far out of your way to get your favorite brand?
Yes _____ No _____
3. How many brands of ice cream have you used in the last six months?
(Names) _____, _____, _____, _____
4. Have you stopped using any brand completely in this time? Yes ___ No ___
5. Why did you stop using this brand? _____
6. What was the brand of ice cream you bought *LAST, to eat at home*? _____
7. Was it *STORE PACKED*? _____ *OR FACTORY PACKED*? _____
8. Where did you buy it? (Name and address) _____
9. What flavor(s) did you buy the *LAST* time? _____
10. Was it the flavor(s) you wanted? Yes _____ No _____ Was it your favorite flavor? Yes _____ No _____
11. Do you Always, ___ Usually, ___ Seldom, ___ Never, ___ get the flavor(s) you want?
12. Was there a large selection of flavors from which to choose? Yes ___ No ___
Didn't notice _____ How many flavors were there? _____
13. Did you buy something else at the same time? Yes ___ No ___ Don't remember _____
If YES, what else did you buy? _____
14. Do you purchase most of your ice cream at the store where you bought the *LAST* time? Yes ___ No ___
If NO, where do you buy most of your ice cream? _____ What flavors? _____
15. Why did you buy at that particular store the *LAST* time? _____
16. In what *OTHER* stores do you purchase ice cream? _____
17. Are there any things about the store where you *USUALLY* buy ice cream which you do not like? Yes ___ No ___ (If the answer is YES, list them.) _____
18. Do you know of any stores that sell ice cream for *less* than you pay for it in the store where you *USUALLY* buy? Yes ___ No ___ Don't Know ___ (If YES, will you name the brand or brands?) _____
19. The *LAST* time you bought Store Packed ice cream, did you receive a generous portion? Yes ___ No ___ Don't Know _____
20. Do you think that it is more than you would get in other stores with which you are familiar? Yes ___ No ___ Don't Know _____
21. While in any of the stores where you buy ice cream, have you ever noticed any ice cream advertisement or display? Yes ___ No ___ (If YES, please describe it.) _____
22. What was the last ice cream advertisement you heard on the radio or television about? _____
23. What was the brand? _____
24. What was the last ice cream advertisement you saw in the newspaper about? _____

25. What was the brand? _____
 26. What type of ice cream do you prefer, Store Packed _____ or Factory Packed? _____
 27. Why do you prefer this type of ice cream? _____
 28. If you buy both Store Packed and Factory Packed ice cream, do you purchase both at the same store? Yes ___ No ___ If NOT, why not? _____
 29. Who USUALLY buys the ice cream for home consumption in your family? _____
 30. Is the selection of the brand and flavor left up to that person? Yes _____ No _____ If NO, who makes the selection? _____
 31. What time of day is it usually purchased? Morning _____ Noon _____ Afternoon _____ Before dinner _____ In the evening _____
 32. What day(s) of the week do you USUALLY buy? _____
 33. Do you buy ice cream for home consumption when you are shopping for other things? Never _____ Rarely _____ Occasionally _____ Frequently _____
 34. Do you purchase ice cream from the vending peddlers who canvass the neighborhood? Yes ___ No ___ How many times a week? _____ What type? Novelties ___ Pints ___ Quarts ___ How much at a time? _____ What flavors? _____ Who eats it? _____
 35. Does you milkman deliver ice cream along with the milk? Yes ___ No ___ Don't know _____ Do you ever buy ice cream from him? Yes ___ No ___ How many times a week? _____ How much at a time? _____ What flavors? _____
 36. Do you have a deep freezer? Yes ___ No ___
 37. Do you ever buy ice cream and store it in your deep freezer? Yes ___ No ___ How much do you buy at a time? _____ What flavors? _____ How long does it last? _____
 38. Do you make your own ice cream? Yes ___ No ___ Why do you make it? _____ Which do you prefer? _____ Why? _____ What flavors? _____
-

ACTION NEEDED

In reviewing this questionnaire, the sales manager raised the following questions with Mr. Lodge:

1. Is the problem well and fully covered?
2. Is the questionnaire too long?
3. Are some of the questions, particularly the open-end ones, of the best type possible for the problem?
4. Can the sequence of questions be improved?
5. How are respondents and their families to be identified or classified?
6. If this questionnaire were pretested, what responses might be anticipated? How might such anticipation aid in revising the questionnaire?

CASE 8—GETTING A LUGGAGE QUESTIONNAIRE INTO SHAPE

BACKGROUND

The associates of Researchers, Inc., were firmly convinced that a consistently good output of marketing research depended not on individual brilliance but on effective teamwork. This principle was incorporated into staff organization and operations. During the various stages of each project, the project director and his immediate staff would consult with other senior and junior staff members at regular meetings concerning the problems they faced.

That these meetings, as all democratic processes, tended to be protracted and somewhat confusing was recognized. Yet they encouraged original suggestions, led to a broad consideration of issues, and provided a searching test of all plans. In general, it was believed, these methods produced effective research and provided good training for staff members.

On one occasion, a questionnaire concerning luggage was being drafted for a personal interview survey of families. Drafts had been prepared by several staff members and many questions that might be used in the survey had been suggested during the meetings held on the subject.

HYPOTHESIS ON LUGGAGE USE

A basic problem concerned the factors affecting luggage needs and ownership. The hypothesis formulated stated: the amount and kinds of luggage needed and owned by families will be influenced, among other factors, by the type of business, vacation, and other travel uses, and by the amount of sharing of luggage among family members and others.

Questions suggested and considered included these:

1. A. Did you take a vacation this year?
If YES: How many pieces of luggage did you take?
- B. Do you plan to take a vacation next year?
If YES: How many pieces of luggage would you probably take?

If no: How many pieces of luggage would you probably take if a trip came up?

2. A. Do you personally own any luggage that is used for traveling?
If yes: What types?
B. Is there any other luggage in the family that is used for traveling?
If yes: Who owns this luggage? What types?
C. Are there any members of the family that do not own luggage?
If yes: Who are they?
3. Is any piece of luggage used by more than one person in your family?
4. When traveling away from home, what means of transportation do you use most often?
5. When did your family last take a trip together?
6. A. When did a member of your family last take a trip alone?
B. What was the purpose, or reason, for that trip?
C. How many pieces of luggage did _____ take along?
7. What luggage do you use the most? For what purposes?
8. Do you ever loan your luggage to other members of the family or to friends? CHECK WHICH ONE(S).
9. Do the various members of the household use one another's luggage?
10. How many trips away from home have you made during the past year?
11. Not including trunks, how many pieces of luggage did you take with you on your last trip?
12. Were any of the pieces of luggage you took with you on your last trip borrowed from persons outside your family?
13. In your household (A) does each member of the family have his or her own personal luggage? or (B) is the luggage family property and used by all members?
14. How many times a year do you (A) use your luggage? (B) loan it to a member of your family? (C) loan it to a friend or relative?
15. Has the family, as a group, or any member or members of the family taken a trip, or trips, long enough to involve the use of luggage within the last six months?
If yes: What mode of travel was used?
Which of the following types of luggage were used?
16. A. When you travel for pleasure, vacation, or week end, what type of luggage do you use?
B. When you travel on business, or when other members of your family travel on business, what type of luggage is used?
17. Do relatives or friends or family members ever borrow your luggage?

18. A. When did you or members of your family last use luggage?
 - (1) For pleasure?
 - (2) For business?
 B. When do you expect to use your luggage again?
 - (1) For pleasure?
 - (2) For business?
19. How many days are you away from home on an average trip?
20. Since January 1 (or: In 19—), how many times did you yourself use any luggage? Which case, or cases, did you use most often? Why is this case used most often?
21. Who travels most in family?
 IF OTHER THAN PERSON BEING INTERVIEWED: Which type, or types, of luggage did — use? Reasons for use of this type most often?
22. A. When was it that you last took a trip? The time before that?
 B. How did you travel the last time?
 C. How many pieces of luggage did you take with you?
 D. What style and material were these pieces?

HYPOTHESIS ON LUGGAGE GIFTS

Another objective of the study was concerned with the amount and types of luggage bought as gifts, the identity of purchasers and recipients of gifts, and the occasions for giving. Among questions suggested for use were these:

1. Have you ever received a piece of luggage as a gift?
2. If you have received luggage as a gift, on what occasion was it given?
 (A) Wedding? (B) Graduation? (C) Birthday? (D) Anniversary?
 (E) Christmas? (F) Mother's Day? (G) Father's Day? (H) Retirement? (I) Other? CHECK WHICH ONE(S).
3. Which pieces of your luggage did you receive as gifts? On what occasions?
4. A. When did you last receive a piece of luggage as a gift?
 From whom? For what occasion?
 B. When did you last give a piece of luggage as a gift?
 To whom? For what occasion?
5. Have you or your family ever received luggage as a gift?
 Ever given luggage as a gift? What occasion?
 How long ago was it?
6. Have you ever given or received luggage as a gift?
7. For what occasions would you consider luggage as an appropriate gift?

8. Was the last piece of luggage you bought for your own use or for a gift?
If a GIFT: Would you mind telling me to whom you gave it—that is, husband, daughter, son, etc.?
9. A. Have you or your family ever received luggage as a gift? If YES:
Which member or members?
From whom was it received?
What was the occasion?
When did this happen?
B. Have you or your family ever given luggage as a gift?
If YES: Which member or members?
To whom was it given?
What was the occasion?
When did this happen?
What type luggage was given?
What price was paid?
10. Have you or your family received luggage as a gift in 19—?
11. How many pieces of the luggage that you or your family now own were received as gifts?
12. Within the last six months has the family, or any individual member of the family, given luggage as a gift?
If YES: Who bought it for whom?

ACTION NEEDED

The questions quoted exemplify the problems faced, although they do not include all the questions suggested. Many are crudely expressed, and typify questions that might be drafted on the spur of the moment and culled from the transcript of an open meeting. Almost any question ever worded, of course, can be objected to on some grounds. (Indeed, criticizing the other fellow's questionnaire is a favorite indoor sport in some circles.) These were, however, the raw materials of a questionnaire that was being constructed. The problem was to put this material together into a workable questionnaire. To do so, however, raises the following questions:

1. If many families are interviewed, will the giving of luggage equal the receiving, so that data need be gathered only on one or the other?
2. For what time period should data on gifts be asked and by what method?

3. What are the complexities of luggage use that complicate the wording of the questionnaire? Might instructions on whom to interview simplify the problem?
4. Which questions exemplify common faults or problems of questionnaire construction? How might each such question be improved?
5. Which questions are best for clarity and ease of recording answers?
6. For each of the two problems, what sequence of questions is best calculated to yield the answer?
7. Based on this evidence, would you say an open meeting is a successful way to construct a questionnaire? Under what conditions might a meeting for this purpose be most effective?

CASE 9—FOLLOWING UP ON A DEPARTMENT STORE STUDY

BACKGROUND

The survey made of the customers of the Langdale Department Store (Part III, Case 5, pp. 91 to 100) had proved to be of interest and value to store executives. In particular, the study had focused attention on the potential value of greater knowledge of customer actions to the merchandising and promotional operations of the store. A follow-up study, therefore, was authorized to explore some of the many possibilities.

THE PROBLEM

After the problem for this study had been formulated, question arose regarding the proper types of follow-up investigations that should be made.

DATA AVAILABLE

Preliminary problem formulation had resulted in the following statement:

Project: The relation of customers to merchandise departments.

Basic problem: How can the store utilize knowledge of customers' behavior in relation to purchases of specific types of merchandise in order to increase sales? In particular, how can an identification of successful, or key, departments and an analysis of the reasons for their success (primarily in relation to customer types and customer be-

havior) lead not only to improved store promotion and increased store traffic, but also to profitable imitation of their success by other departments?

Hypotheses:

- A. The relation of a large department store to its customers is not that of one retail unit to one market, but rather is that of a hundred or more small stores to dozens of special markets.
 - 1. A large number of customers are loyal not to the store but only to one or a few departments.
 - 2. The store has a few key departments which create most of the selective buying.
 - 3. The customers for many individual departments are so homogeneous by income, geographic location, age, or other characteristics as to constitute a special market.
 - 4. Many customers almost always go to a given department store to buy certain merchandise (even shopping goods).
 - 5. The widespread patronage of upper income families may reduce the number of departments patronized.
- B. The volume of store traffic and sales can be increased significantly by an understanding and use of the relation of customers to specific departments.
 - 1. Some key departments are patronized by a large proportion of all store customers, but most are not.
 - 2. Large sales volume in some key departments is due primarily to reaching a large segment of their potential market.
 - 3. Promotions in key departments are many times as effective in producing store traffic and the sale of related, impulse, or other merchandise as are promotions in other departments.
 - 4. There may be some combination of, say, six or ten key departments which will be 90 per cent as effective in developing store traffic as are blunderbuss store-wide promotions.
 - 5. Identification of key departments and an analysis of their reasons for success can lead not only to better store traffic but also to profitable imitation by other departments.
 - 6. The greater the number of departmental loyalties the larger will be customer expenditures.
 - 7. Promotions staged by departments with the greatest number of customers are the best promotions for the store as a whole.
- C. The merchandising of specific departments can be improved by knowledge of their customers.

1. Some departments make relatively large sales to a limited number of customers, their increase in volume depending mostly on getting new patrons.
2. Some departments make relatively small sales to a great number of patrons, their increase in volume depending most on increasing the size or number of purchases by present patrons.
3. Price-line emphasis in some departments may be far out of line with the relation of store or department customers to price lines.
4. If many customers for some departments are patrons only at times of special sales events, a promotional weakness or failure of these departments is indicated.
5. Knowledge of purchase habits can aid in the selection of advertising media in general or of the merchandise of specific departments.

Subsidiary Problems:

- A. How loyal are customers to specific departments and how loyal are they to the store?
Possible measures of loyalty are:

To Store:

1. Patronage only at this department store.
2. Patronage at 3, 4, 5 (or more) other department stores.
3. A given dollar amount of purchases (in relation to income).
4. A given per cent of total family expenditures or total department store purchases.
5. Patronage of _____ or more departments over a given period of time.
6. Spending more here than at any other store.
7. Expressed intent (or habit) of always *starting* a shopping trip by coming to this store.
8. Expressed general preference for this store.
9. Expressed preference for particular aspects of this store.

To department:

1. A given percentage of total credit expenditures in any one department.
2. A given dollar amount of purchases (in relation to income) over a particular period of time.
3. A given number of purchases (or purchase visits) over a particular period of time.

4. A department with a loyal following defined as one in which, say, 50 per cent of sales are made to 10 per cent of department patrons.
 5. Regularity of buying or frequency of purchases.
 6. Expressed intent almost always to buy given merchandise at a given department.
 7. Expressed intent to visit department upon entering store.
 8. Expressed preference for particular departments.
 9. Expressed preference for particular aspects of departments.
- B. What merchandise is purchased by (a) distant customers, (b) customers who shop infrequently, and (c) customers who spend a limited time shopping, and can their purchases be increased by promotion of telephone and mail services or by other means?

Potential Value to Management:

1. Need for, or desirability of, institutional advertising or activities.
2. Determination of whether or not the successful cultivation of customers in different income brackets depends on particular departmental appeals, wide assortments or price lines, and so forth, so as to appeal more effectively to special groups.
3. Recognition of key departments for: (1) promotions aimed at all income groups, (2) promotions aimed at specific income groups, and (3) promotions aimed at specific types of persons.
4. Recognition of departments that attract only bargain hunters.
5. Recognition of departments that primarily create store traffic and thus aid sales in other departments the most.
6. Recognition of weak or strong departments in terms of customer loyalty, regular patrons, sale patrons, and so forth.
7. Recognition of departments whose customers are so homogeneous (and loyal) as to constitute a special market, and one, perhaps, best cultivated by direct mailings.

Data gathered on a previous customer survey were useful in making these formulations and were expected to provide useful correlations with data gathered on the current study. The question arose, however, as to the need for gathering new data directly from customers.

Among the relevant findings of the survey were these: only 4 per cent of store customers made no purchases for credit or cash at other department stores in the city. Of their customers living in the city, however, 22 per cent had credit accounts only at Langdale's and 36 per cent of their customers outside the city

had credit accounts only at this department store. Credit business was over 60 per cent of the total, and when the cash expenditures of credit customers were counted, less than 10 per cent of business came from customers without credit relations at the store. Approximately 30 per cent of all their customers patronized at least four out of the five largest department stores in the city. The higher the income of customers, the greater was the tendency to patronize more stores, to utilize credit in buying (primarily the regular 30-day charge account), and to buy at least part of their goods by telephone. Half of all customers had bought some goods from some department store by telephone during the year, and one third had made telephone purchases at Langdale's. The same proportions also held for purchases by mail. The lower the income, however, the more mail buying, contrary to the pattern for telephone buying.

ACTION NEEDED

1. How could such hypotheses be tested by consumer interviews, talks with store personnel, or inspection of company records?
2. In what ways might the troublesome problems raised by expenditures for cash, on which individual customer records do not exist, be minimized or solved?
3. Can the study successfully be restricted to the gathering of data from store records? How can it be coordinated with the earlier study?

Part IV

SAMPLING

The need for sampling in marketing research arises because the limitations of time and resources rarely permit study of all the members of a population. Information with regard to the total, therefore, has to be obtained by means of a sample, a subset of the total. Nevertheless, data obtained in this manner may be more accurate than those obtained from a complete census. The reason for this is that restriction of data gathering to a sample of the whole permits more attention to be devoted to the many aspects of a survey operation that are likely to bias the results. Interviewer training is one of the most important of these. Errors produced by sampling variation may be negligible relative to those caused by misunderstanding of interviewing instructions. Proper attention to the latter in a sampling operation may, therefore, yield more accurate results for the population than a complete census which eliminates sampling errors but leaves room for these other errors.

Properly designed samples can yield population data with only a negligible loss in accuracy and at a fraction of the cost of surveying the entire population, and therein lies the great value of sampling to market research and to many other disciplines.

A Review of Some Basic Sampling Concepts

The Objective of Sampling. The basic aim of any sample is to provide the necessary information with the required accuracy at a minimum cost or to maximize the accuracy of the information obtainable at a given cost.

The Meaning of Accuracy. Accuracy in sampling is com-

pounded of two distinct factors, precision and bias. The former derives from the fact that estimates based on samples will necessarily fluctuate about the true, unknown population values (means, medians, standard deviations, etc.), or parameters, because of sampling variation, because hardly any sample is likely to be a perfect miniature of the population from which it is chosen. If a large number of samples of the same size are drawn to estimate the same parameter, each sample member drawn at random from the population, the estimates based on these samples will be scattered around the true population value in much the same way that the shots of a rifle aimed at a certain target are scattered around the target. The probability that any one estimate will fall within a certain range of the true value can be worked out by probability theory for different sample designs. Conversely, on the basis of this theory, the margin of error, or sampling error, that can be expected with a particular sample design and sample size is ascertainable at different probability levels (always, however, under the assumption of random selection). Therefore, once the allowable margin of error and the desired probability level—the precision of the sample—are given, the sample size and funds needed by each of the various sample designs can be computed.

The other component of accuracy, bias, represents all the influences that tend to distort the estimate. Arbitrary selection of sample members, prejudicial question wording, preconceived interviewer attitudes, faulty editing, and many others can produce sample values that will not average out to the true population values, no matter how large the sample. In other words, unlike sampling error, bias is largely invariant of sample size, and for this reason the basic objective of sampling can be rewritten thus: *to produce no more than a given sampling error at minimum cost, or to minimize the sampling error at a given cost*, depending on the situation at hand.

Arbitrary vs. random selection. The manner in which the individual sample members are selected determines whether or not the sampling errors of the estimates can be measured. If the sample members are selected at random from the population (which means that each member of the population must

have an equal, or known, chance of being selected in the sample), probability theory is applicable, the sampling errors are measurable, and the reliability of the estimates can be gauged. The availability of so-called random sampling number tables¹ and various schemes of systematic selection (such as selecting every n th name or address, n being the ratio of the size of the population to that of the sample) often reduce the process of random selection to a routine matter.

If, however, the individual sample members are chosen in some arbitrary or haphazard fashion, present probability theory cannot validly be used to measure sampling errors, and their estimation becomes largely a matter of individual judgment.

Arbitrary selection is still widely used, partly out of habit, partly in the mistaken belief of avoiding higher costs associated with random selection, and partly in a legitimate sense because random selection may be unnecessary. The last is true for many pretests, for certain types of taste tests, for audience reaction studies, and in general for any survey whose principal objective is to secure general reactions rather than specific estimates. Case 8 in this Part illustrates one such situation. However, where the purpose of a study is to secure estimates of certain unknown population characteristics, random selection is eminently desirable, not only as the sole means of measuring sampling error, but also for avoiding the bias inherent in most arbitrary selection procedures. Even though the final sample may not turn out to be perfectly random—because of the high nonresponse rates often obtained on marketing surveys—the use of this means of sample selection, combined with assiduous callbacks on the nonrespondents, will generally produce more reliable data than will arbitrary selection.

Probability Samples and Judgment Samples. These terms, which have gained wide usage, are nothing more than synonyms for random selection and arbitrary selection, respectively. A probability sample is one whose sampling error is measurable,

¹ A description of the use of such tables will be found in most marketing research texts. Also see H. N. Broom, *New Random Sampling Numbers*, Waco, Texas: Baylor University, Baylor Business Studies, I, No. 1, 1949, pp. 10-15.

a condition that exists only, as has been noted above, when random selection is used. On the other hand, a judgment sample is one whose error is not measurable, which holds when arbitrary selection is used. It cannot be overemphasized that a sampling design, whether it be area sampling, stratified sampling, or any other, can be set up either on a probability or on a judgment basis; that is, it can be set up so that the sampling variations can or cannot be validly measured by means of the sampling error formulas.

Some Principal Sampling Designs

A wide variety of sample designs are available for use in marketing research. Perhaps the main ones are the following:

*Unrestricted sampling*²—each sample member is selected from the entire population being studied. If random selection is used, this means that every member of the population must have an equal chance of being chosen. Unrestricted sampling is generally desirable if little is known about a particular population, especially if it is relatively small and compact.

Area sampling—a modification of unrestricted sampling based on prior subdivision of the population into areas and restriction of sample selection to certain of these areas. This method does not generally reduce the sampling error relative to that of an unrestricted sample of the same size. However, it may lead to substantial reductions in cost, particularly where large geographic areas are involved, because of concentration of the field work.

Cluster sampling—selection of sample members in groups instead of individually. Thus, a sample of three hundred families might be constructed by selecting sixty groups of five neighboring families instead of making three hundred individual selections. This method is especially advantageous where an

² This is also widely referred to as *random sampling*, but the use of the word "random" in this connection is not recommended, because of the danger of confusing it with *random selection*, where the word "random" refers to the manner of sample selection. Thus, one could have a so-called "random" sample with nonrandom (arbitrary) selection of individual sample members.

appreciable part of the interviewers' time may be taken up with traveling.

Stratified sampling—prior division of the population into strata based on characteristics considered relevant to the subject under study, and selection of sample members from each stratum. In effect, it is a weighted aggregate of unrestricted samples. For stratified sampling to be useful, the following three conditions must be met:

1. Certain relevant characteristics are known to influence strongly the subject under study.
2. Division of the population by the relevant characteristics is practicable.
3. The relative division of the population by these characteristics is known with a fairly high degree of accuracy.

This means, for example, that if city size were known to affect substantially the movie attendance characteristics in a certain area, the use of stratified sampling could not be considered unless unrestricted samples could be selected from each city-size class, in turn, and the relative size of each city-size group in the area were known. A stratified sample measuring movie attendance characteristics could then be constructed by segregating the communities in the area into strata by size, and then selecting people at random from each stratum.

If the number selected from each stratum is proportional to the relative size of the stratum in the population, we have a *proportionate stratified sample*; otherwise we have a *disproportionate stratified sample*. The latter is preferable if the various strata become less homogeneous with respect to the characteristic(s) under study.

A stratified sample can be constructed even if members of each stratum cannot be identified, as long as the relative sizes of the strata are known. In other words, a stratified sample of families by income level is feasible even if the identities of the families in each income level are not known, as long as the aggregate proportion of families in each income level is known.⁸

⁸ R. Ferber, "The Common Sense of Sampling," *Current Economic Comment*, XI (August, 1949), pp. 48-56.

The sampling error of a stratified sample may be considerably below that of an unrestricted sample of the same size. This is because the stratified design makes use of the additional information regarding the breakdown of the population by the relevant characteristic(s) and thereby serves to reduce the margin for sampling error. The trouble with stratified sampling in practice is that, though the relevant stratifying characteristics are usually known, we do not always know with any great accuracy the relative sizes of the strata in the population. Because of this lack of knowledge, the gains made possible by stratification may be more than offset by variations introduced by inaccurate data regarding the sizes of the population strata, a factor that unfortunately is frequently overlooked. Any evaluation of the desirability of stratified sampling in a particular case must take into account the increased sampling error resulting from inaccurate population weights as well as the inherent gains due to stratification.

Stratified designs do not preclude the concomitant use of area sampling or cluster sampling schemes. Thus, the United States might be subdivided into regional strata, such as North, South, East, and West, with areas selected within each region and with sample members selected from each of these areas in clusters. Similarly, the selection of the members of a stratified sample could be accomplished either by random or arbitrary procedures.⁴

Double sampling—selection of a large initial sample, on the basis of interviews with which a subsample is chosen for more intensive interviewing. It is generally most useful when the subject under study is known to be related closely to certain characteristics but the distribution of these characteristics is not known. If, say, automobile purchase habits are known from

⁴ A much-maligned term in recent years is "quota sampling," which is essentially a synonym for "stratified sampling" arising from the fact that quotas are generally established for each stratum. The widespread use some years ago of arbitrary selection in filling these quotas has led many to believe that quota sampling *per se* is a biased form of sampling. Unless one defines it specifically in this manner, however, the fact remains that quota sampling is nothing more or less than stratified sampling and can be applied with either random or arbitrary selection.

past studies to be closely related to income, a study of the subject in City Z might be conducted by, estimating, from brief interviews with an unrestricted sample, the city's income distribution, and selecting a subsample of the sample number in each income bracket for lengthy interviews on their automobile purchases and preferences.

Multistage sampling—selection of a sample in successive stages, most frequently used in constructing area samples. Thus, of the families in the United States, a sample on a probability basis might be selected in the following four stages:

1. Combining the 3,000-odd counties in the country into, say, one or two hundred groups and selecting a few groups for inclusion in the sample.
2. Within each sample group, selecting one or more areas.
3. Within each sample area, selecting one or more blocks or smaller areas.
4. Prelisting the inhabitants of these smaller areas and selecting the members of the sample.

Sequential analysis—a radical departure from conventional sampling in that the sample size is not predetermined but depends on the sample results themselves. In other words, by the sequential method a running score is kept of the results obtained on all interviews made. As soon as this score indicates a conclusive answer one way or another, as computed on the basis of probability theory, sampling is stopped and the survey is finished.

Sequential sampling can at times prove a great money-saver in marketing research. It is applicable, however, only when all the following considerations are met: there must be random selection; nonresponse must be practically nonexistent or, if existent, appropriate safety devices must be built into the sequential formulas; records must be kept of the sequence in which the interviews are made—either singly or in groups—and it must be possible to cumulate and examine the results of the interviews periodically; a few key questions amenable to sequential treatment must be available.

Consumer panels—data on most sample surveys are secured in one interview with the respondent; these are sometimes referred to as one-spot samples. There are many cases, however, where repeat interviewing with the same respondents—consumer panels, using “consumer” in the broadest sense of the word—is desirable. This is true whenever the purpose of the study is best served by observing changes in attitudes or behavior of the same persons over a period of time, a determination which must be made in each individual case.

The sampling aspects of a consumer panel operation are slightly more complicated than the corresponding one-spot samples because the following additional considerations must be taken into account:

1. The initial sample size must be large enough to counteract panel mortality.
2. A decision must be made regarding replacement of dropouts. Should they be replaced, and if so, how? The most common means are by random selection or by attempting to find families possessing characteristics as close as possible to those dropping out.
3. Consideration must be given to methods of maintaining respondent cooperation and minimizing panel mortality. Premium deals sometimes prove helpful.
4. The danger of bias is, if anything, greater than with one-spot samples, as many forms of bias are magnified with time. Atypical representation of the sample is commonly thought to be one such form of bias.

Some of the problems involved in setting up a consumer panel operation are raised in Case 6 of this Part.

The Cases in This Part

The eight cases in this Part illustrate a variety of sampling problems. The emphasis is on the broader, operational aspects of sampling, though some of the cases (2 and 3) also go into the more technical aspects, such as determination of sample size. The first case presents a simple exercise designed to acquaint the student with the use of random sampling number tables.

These tables are basic to many surveys, yet most marketing students are given little opportunity to use them.

The second case poses some of the problems leading to questions of method and sampling. The question of the adequacy of a particular sample design is the subject of the third case. It presupposes some knowledge of the principal sample designs and of their relative merits.

Designing a sample from the very beginning is the subject of the next two cases. The design of a sample to test a particular hypothesis is the problem in Case 3, whereas the problem in Case 4 is to set up a sample design to answer more than one question, a so-called multipurpose survey.

Case 5 indicates the practical ways in which a controlled experiment can be designed. The headaches involved in a consumer panel operation are raised in Case 6, which at the same time provides further practice in sample design.

The value and desirability of follow-up interviews are the problems in Case 7. This is a problem that occurs frequently in practice but to which relatively little attention seems to be given in the classroom.

Case 8 serves a dual purpose. It shows how a judgment sample can prove useful and at the same time serves to highlight its limitations and the difficulties involved in validating the results.

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Part IV Cases

CASE I—RANDOM SELECTION OF SAMPLE MEMBERS

BACKGROUND

A newspaper in a middle-sized community contracted for a survey to determine the characteristics of its readers in relation to those of the community as a whole. Information was desired on such factors as age distribution, income distribution, occupation, sex, and length of residence in the area.

A personal interview survey was planned to elicit this information. About 300 persons were to be included in the sample, all from the community. Selection of the sample members was to be made at random in order to obtain numerical estimates of the proportions of readers and nonreaders having the required characteristics. To yield a final sample of 300, it was estimated that an upper limit of 330 names would be required to allow for nonresponse and for persons who had moved.

THE PROBLEM

For various reasons, sampling was to be restricted to the corporate area of the city. A fairly recent city directory was available listing all the people residing in the city, and this directory was brought reasonably up to date with the aid of figures obtained from the local building permit office on new housing construction in the area. For the purposes of this survey, the city directory, supplemented in this manner, appeared to be adequate. The problem that arose was how to select names at random from it.

The organization of the relevant part of the city directory is as follows:

PAGE FROM A TABLE OF RANDOM SAMPLING NUMBERS

LALDIA 1

Line Col	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1452	374	92	7486	23333	71949	01168	30293	50804	67753	08584	19883	27135	81273	50353
1453	375	93	7487	23334	71950	01169	30294	50805	67754	08585	19884	27136	81274	50354
1454	376	94	7488	23335	71951	01170	30295	50806	67755	08586	19885	27137	81275	50355
1455	377	95	7489	23336	71952	01171	30296	50807	67756	08587	19886	27138	81276	50356
1456	378	96	7490	23337	71953	01172	30297	50808	67757	08588	19887	27139	81277	50357
1457	379	97	7491	23338	71954	01173	30298	50809	67758	08589	19888	27140	81278	50358
1458	380	98	7492	23339	71955	01174	30299	50810	67759	08590	19889	27141	81279	50359
1459	381	99	7493	23340	71956	01175	30300	50811	67760	08591	19890	27142	81280	50360
1460	382	00	7494	23341	71957	01176	30301	50812	67761	08592	19891	27143	81281	50361
1461	383	01	7495	23342	71958	01177	30302	50813	67762	08593	19892	27144	81282	50362
1462	384	02	7496	23343	71959	01178	30303	50814	67763	08594	19893	27145	81283	50363
1463	385	03	7497	23344	71960	01179	30304	50815	67764	08595	19894	27146	81284	50364
1464	386	04	7498	23345	71961	01180	30305	50816	67765	08596	19895	27147	81285	50365
1465	387	05	7499	23346	71962	01181	30306	50817	67766	08597	19896	27148	81286	50366
1466	388	06	7500	23347	71963	01182	30307	50818	67767	08598	19897	27149	81287	50367
1467	389	07	7501	23348	71964	01183	30308	50819	67768	08599	19898	27150	81288	50368
1468	390	08	7502	23349	71965	01184	30309	50820	67769	08600	19899	27151	81289	50369
1469	391	09	7503	23350	71966	01185	30310	50821	67770	08601	19900	27152	81290	50370
1470	392	10	7504	23351	71967	01186	30311	50822	67771	08602	19901	27153	81291	50371
1471	393	11	7505	23352	71968	01187	30312	50823	67772	08603	19902	27154	81292	50372
1472	394	12	7506	23353	71969	01188	30313	50824	67773	08604	19903	27155	81293	50373
1473	395	13	7507	23354	71970	01189	30314	50825	67774	08605	19904	27156	81294	50374
1474	396	14	7508	23355	71971	01190	30315	50826	67775	08606	19905	27157	81295	50375
1475	397	15	7509	23356	71972	01191	30316	50827	67776	08607	19906	27158	81296	50376
1476	398	16	7510	23357	71973	01192	30317	50828	67777	08608	19907	27159	81297	50377
1477	399	17	7511	23358	71974	01193	30318	50829	67778	08609	19908	27160	81298	50378
1478	400	18	7512	23359	71975	01194	30319	50830	67779	08610	19909	27161	81299	50379
1479	401	19	7513	23360	71976	01195	30320	50831	67780	08611	19910	27162	81300	50380
1480	402	20	7514	23361	71977	01196	30321	50832	67781	08612	19911	27163	81301	50381
1481	403	21	7515	23362	71978	01197	30322	50833	67782	08613	19912	27164	81302	50382
1482	404	22	7516	23363	71979	01198	30323	50834	67783	08614	19913	27165	81303	50383
1483	405	23	7517	23364	71980	01199	30324	50835	67784	08615	19914	27166	81304	50384
1484	406	24	7518	23365	71981	01200	30325	50836	67785	08616	19915	27167	81305	50385
1485	407	25	7519	23366	71982	01201	30326	50837	67786	08617	19916	27168	81306	50386
1486	408	26	7520	23367	71983	01202	30327	50838	67787	08618	19917	27169	81307	50387
1487	409	27	7521	23368	71984	01203	30328	50839	67788	08619	19918	27170	81308	50388
1488	410	28	7522	23369	71985	01204	30329	50840	67789	08620	19919	27171	81309	50389
1489	411	29	7523	23370	71986	01205	30330	50841	67790	08621	19920	27172	81310	50390
1490	412	30	7524	23371	71987	01206	30331	50842	67791	08622	19921	27173	81311	50391
1491	413	31	7525	23372	71988	01207	30332	50843	67792	08623	19922	27174	81312	50392
1492	414	32	7526	23373	71989	01208	30333	50844	67793	08624	19923	27175	81313	50393
1493	415	33	7527	23374	71990	01209	30334	50845	67794	08625	19924	27176	81314	50394
1494	416	34	7528	23375	71991	01210	30335	50846	67795	08626	19925	27177	81315	50395
1495	417	35	7529	23376	71992	01211	30336	50847	67796	08627	19926	27178	81316	50396
1496	418	36	7530	23377	71993	01212	30337	50848	67797	08628	19927	27179	81317	50397
1497	419	37	7531	23378	71994	01213	30338	50849	67798	08629	19928	27180	81318	50398
1498	420	38	7532	23379	71995	01214	30339	50850	67799	08630	19929	27181	81319	50399
1499	421	39	7533	23380	71996	01215	30340	50851	67800	08631	19930	27182	81320	50400

Source Table of 105,000 Random Decimal Digits, Interstate Commerce Commission, Bureau of Transport Economics

A section of 468 pages lists all adult residents of the city in alphabetical order. A supplement of six pages was added listing new people in the area, making a total of 474 pages.

Each page contains two columns of names, with 70 lines to a column. The last page, however, contains only 28 lines (of two columns).

Some names occupy more than one line—sometimes as many as three lines—because data on the person's occupation and relationship in the family were provided. In addition, the alphabetical listing was interrupted by a space of five lines whenever last names began with a new letter of the alphabet.

ACTION NEEDED

It was decided to employ a table of random sampling numbers to secure random selection of the sample members: that is, to assure each member of the population an equal chance of being selected in the sample. One page from a random sampling number table is reproduced on page 126. What is needed is a detailed set of step-by-step instructions for selecting the sample members by random selection with the aid of this random sampling number table. The table on page 126 is to be used for illustrative purposes in setting out the procedure.

CASE 2—DETERMINING THE CHARACTERISTICS OF THE FOUNDRY INDUSTRY

BACKGROUND

In 1947-48 Illinois was the third largest state in terms of number of foundries, having 436 of the 5,452 reported for the United States. These 436 foundries were known to be of a variety of sizes and types, but little else was known regarding their characteristics. Statistical studies of the foundry industry had been conducted by government agencies, by associations within the industry, and by publications serving the industry, but these studies had not contributed greatly toward providing statewide information on the characteristics of the industry. The people in the industry felt that it was time for such a study

to be made, and accordingly enlisted the services of a researcher to direct the study.

THE PROBLEM

The researcher's first task was to lay out a plan for this study which, when carried out, would yield the required information at minimum cost. In essence, two types of information were desired. One type comprised numerical estimates for all foundries in the state relating to such items as amounts of materials used, distribution of product by industry and by geographic area, and extent of research operations. In addition, some general information, more or less on a qualitative basis, was desired on such subjects as working conditions in the foundries, personnel policies, degree of mechanization, and community activities of the foundries.

DATA AVAILABLE

Geographically, the 436 foundries in Illinois in 1947-48 were scattered over the state, though concentration was evident near the Chicago and St. Louis areas.

Data on these foundries by type and by number of employees in Illinois and in the United States in 1947-48 are shown in Exhibits 1 and 2. A list of these firms was obtainable from *Penton's Foundry List, 1947-48*.

ACTION RECOMMENDED

Two questions of sampling arose in planning this survey: how to obtain the information, and from whom to obtain it. Some suggested that the information be sought by personal interview, while others maintained that the data could be obtained just as easily and much more economically by using mail questionnaires, an important consideration in view of the desire to restrict expenditures. If mail questionnaires had been employed, however, something would have had to be done about the nonrespondents.

Should a sample of the 436 firms be selected, or should an attempt be made to secure information from all the firms?

Those favoring the former procedure thought that a carefully selected sample, carefully interviewed, should yield as reliable information regarding all the firms in the state as a complete census. Those taking the other point of view maintained that interviews with all the firms were not unwarranted here because of the small size of the population, and that the bother of selecting a sample was hardly worth it in such a case. They admitted, however, that if the data were to be obtained by personal interview, considerable savings could be effected if only part of the population were interviewed.

ACTION NEEDED

A sampling plan had to be prepared outlining the procedure to be followed in gathering the data for the study. This plan had to include consideration of the following questions:

1. Should the data be obtained by mail questionnaire or by personal interview? If the former, what provision should be made for handling the problem of nonresponse?
2. Should data be sought from all the firms in the state or from a sample of them? If a sample is used, what should its design be, and how should the sample members be selected?

EXHIBIT 1

DISTRIBUTION OF FOUNDRIES BY TYPE OF METAL CAST, UNITED STATES AND ILLINOIS, 1947-48

Type of metal	Number of U. S. foundries	Illinois foundries	
		Number	Percent of total U. S.
Gray iron	3,058	209	6.8
Steel.....	368	30	8.2
Malleable	133	19	14.3
Aluminum	2,676	207	7.7
Brass and bronze.....	2,563	169	6.6
Magnesium	134	12	9.0
Total nonferrous	3,218	246	7.6
All foundries.....	5,452	436	8.0

Source: *Foundry Industry Data Book, 1947-1948*. Compiled by the market research department of *The Foundry* (Cleveland, Ohio).

NOTE: Totals do not equal the sum of details, since some foundries produce castings of more than one kind of metal.

MARKETING RESEARCH

EXHIBIT 2

DISTRIBUTION OF FOUNDRIES BY NUMBER OF EMPLOYEES,
UNITED STATES AND ILLINOIS, 1947

Number of employees	United States		Illinois		Covered in this study			
					Questionnaire replies		Visits to plants	
	Number of foundries	Percent of total	Number of foundries	Percent of total	Number of foundries	Percent of total	Number of foundries	Percent of total
1,000 or more	47	0 9	10	2 3	7	3 1	1	2 4
500-1,000	103	1 9	14	3 2	8	3 5	2	4 8
250-500	291	5 3	22	5 0	16	7 0	6	14 3
100-250	763	14 0	62	14 2	28	12 3	9	21 4
50-100	944	17 3	78	17 9	45	19 8	10	23 8
25-50	1,059	19 4	95	21 8	51	22 5	6	14 3
Less than 25	2,245	41 2	155	35 6	72*	31 7	8	19 0
Total, all foundries	5,452	100 0	436	100 0	227	100 0	42	100 0

Source: *Foundry Industry Data Book, 1947-1948*, for the United States and Illinois.

* Foundries with only 8 employees numbered 24 and accounted for 10.6 per cent of the total reporting.

CASE 3—A CONSUMER SURVEY OF
PHILADELPHIA

BACKGROUND

In the spring of 1947, a sample design was needed for a personal interview survey of housewives in Philadelphia concerning the use by families of a class of food products. This class of food products had been included in pantry inventory studies in San Francisco (1941) and in Philadelphia (1946) and in a national study of foods used by urban dwellers (1942). Few details on either use or users were available, but these studies, as well as production figures, showed a rapidly expanding market. Approximately 60 per cent of Philadelphia families were believed to use the products to some extent. It was estimated that with the funds and time available and with the breakdowns desired, a sample of about five hundred would be sufficient.

CHOICE OF SAMPLING METHOD

Data for a highly stratified sample were not available on a reasonably up-to-date basis. A random, or unrestricted, sample

from the population at large was also considered unfeasible. No complete listing of families, or dwelling units, was currently available, the last directory for Philadelphia having been issued in 1935. Thus a pure random, or systematic random, selection based on a physical listing was impossible. A random sampling of the population directly would involve walking the more than 12,000 blocks in the city or the use of the patented Alfred Politz mechanical guide, neither of which was economically feasible.

Stratified sampling with arbitrary selection was deemed possible but not satisfactory because of the danger of interviewer bias and because of inability to establish sufficient controls over respondent characteristics. Besides, the statistician was convinced that area sampling would yield better results.

Area sampling, therefore, was chosen as the basic method, because it could provide an up-to-date "listing." Use of Sanborn maps, however, for automatic selection was far too costly for this survey.

THE SAMPLE DESIGN

The 1940 Census for Philadelphia listed a total of 533,332 dwelling units, of which 506,980 were occupied in that year. Using one interview to represent 1,000 dwelling units would result in a primary sample of 533.

As a first step this sample was to be geographically stratified. All Census subtracts were to be arranged in geographical order so that any subdivisions later chosen would yield a solid block of land rather than a collection of scattered locations. By counting the dwelling units in each subtract during this process and making each unit contain approximately 1,000 dwelling units, the city would be broken into a primary sample of 533 areas, each with 1,000 dwelling units. Each area, it was believed, would be a more or less homogenous segment of population with respect to socioeconomic factors.

Proportionality by income groups was then established. Within each of the 533 areas in the primary sample, one block was to be selected as the block in which interviews would be made. This secondary sample of blocks was to be chosen on the basis of the latest Federal Reserve Board data on incomes

through correlation of incomes with rental values. Thus, one block would represent each area, and the total sample would yield proportional representation to each rental (income) group. For example, since Census data indicated that 18.5 per cent of Philadelphia families were paying from \$20 to \$24 in weekly rents, or owned homes with this rental value, 18.5 per cent of all interviews would be made with families living in blocks in which average rentals in 1940 were within these limits.

It was realized that both rentals and incomes had increased since 1940 and that the increases had not been equal. No up-to-date data were available which could be used to measure these shifts. It was, therefore, assumed that the increases, although not equal, were roughly proportional. To minimize possible distortions caused by this assumption, it was planned to divide the income classification into four groups of equal size. Basing the selection of families to be interviewed on the character of the block itself at the time of interviewing would further reduce distortion, it was believed.

SAMPLE CONSTRUCTION

Owing to the strong plea of the field supervisor not to scatter interviews widely, plus other considerations, the sample design was amended. Instead of using 533 areas, each page of the 152 pages of block listings in the *1940 Housing Supplement, Philadelphia Block Statistics*, was used as a primary sample unit. This accomplished the original objective but with fewer areas.

Directions followed in constructing the sample were:

1. Add all monthly rentals shown in the last column on each page of *Philadelphia Block Statistics*, omitting cents. This is *Total rentals*.
2. Count the number of figures in this same column. This is *Number of rental figures*.
3. Divide *Total rentals* by *Number of rental figures*. This equals the *Average rental per block* for the page.
4. Select that block on the page with the rental nearest to the *Average rental*. Identify this block by average rental, Census tract and sub-tract designation, and block number.
5. Add total dwelling units on page (column 4).

If the total is less than 1,500 dwelling units, one interview should be made in the designated block.

If the total is between 1,500 and 2,499 dwelling units, two interviews should be made in the designated block; and so on.

6. Identify each block with half or more nonwhite populations.

7. Identify each block with apartment houses (an *average* of four or more dwelling units per structure).

This process yielded the following sample distribution by rental groups:

<i>Rental Group</i>	<i>Quota by Census</i>	<i>Unadjusted Sample</i>
\$14 or less	42	0
15-19	60	23
20-24	99	129
25-29	93	127
30-39	125	152
40-49	58	62
50-59	25	10
60-74	16	15
75-99	8	6
\$100 and over	7	2
	<hr/> 533	<hr/> 526

A check showed that the distortion which had resulted was caused primarily by the wide geographical dispersion of most of the low rental groups and some of the high rental groups. Hence, these groups were lost in the averaging process. Using 533 areas, it was shown by a test, would reduce the distortion only slightly. Instead, a method of adjustment was devised by which all high and low rental groups, as shown in Table 2 of *Philadelphia Block Statistics*, were listed separately. From these lists, representative rental groups could be keyed easily to their proper areas, and thus to particular pages. Individual blocks were selected in the same manner as described in step 4 above. In this way, proportionate interviews for the \$14-or-less-rental group were chosen, as well as interviews for the \$15 to \$19, \$75 to \$99, and \$100 and over groups.

After the extreme rental group quotas were adjusted, the balance of the sample was adjusted by minor shiftings to adjacent groups. Thus, if fifty-eight interviews were needed in a group and sixty-two had been provided by the sampling method, the

nearest sample block to the class limit was rechosen, the average being taken as, for example, \$39.43 rather than \$39.60 for the block. This completed the income stratification adjustment. The adjusted sample distribution compared favorably with the Census distribution when rental groups were combined into quartiles, though distortions were still present when subrental groups were considered.

The sample method used provided the desired quota of apartment house interviews without adjustment. Nonwhite interviews came out to fifty-eight instead of seventy. To secure the added twelve another Census subtract list was made showing all subtracts in the city with 50 per cent or more nonwhites. By shifting the average rental by a few cents in three areas the necessary adjustment was made.

THE ADJUSTED SAMPLE

Despite these difficulties, the consensus was that sample accuracy had not been seriously affected by these various adjustments. The sample provided geographical and income (rental) stratification, as well as controls by apartment dwellers and non-

EXHIBIT 1

Rentals	Census per cent of total	Sample interviews			
		Total		Apt. interviews	Nonwhite interviews
		No.	Per cent		
\$14 or less	7.8	42	7.9	0	12
\$14.50-\$19.49	11.2	60	11.3	0	22
\$19.50-\$24.49	18.5	99	18.5	7	13
\$24.50-\$29.49	17.5	93	17.4	4	15
\$29.50-\$39.49	23.4	125	23.4	20	8
\$39.50-\$49.49	10.9	58	10.9	14	0
\$49.50-\$59.49	4.8	25	4.7	4	0
\$59.50-\$74.49	3.0	16	3.0	0	0
\$74.50-\$99.49	1.5	8	1.5	0	0
\$99.50 and over	1.4	7	1.3	4	0
Total		533		53	70

whites, which the nature of the food product and the evidence of the preliminary investigations revealed were desirable.

A comparison of the adjusted sample distribution with that of the 1940 Census is shown in Exhibit 1, p. 134.

Apartment house interviews planned were 9.9 per cent of the total compared to 10.1 per cent in the Census. Nonwhite interviews totaled 13.1 per cent as against 12.9 per cent for the Census, but owing to an oversight not discovered until too late, the distribution of nonwhite interviews by rental groups (of ascending magnitude) was:

<i>Rentals</i>	<i>Census % of Total</i>	<i>Sample % of Total</i>
\$14 or less	17.8	17.1
\$14.50-\$19.49	19.7	31.4
\$19.50-\$24.49	28.4	18.7
\$24.50-\$29.49	18.8	21.4
\$29.50-\$39.49	12.5	11.4
\$39.50-\$49.49	2.0	0
\$49.50-\$59.49	0.8	0
\$59.50-\$74.49	0	0
\$74.50-\$99.49	0	0
\$99.50 and over	0	0

Interviewer instructions for selecting families were: walk around each block assigned and select the typical structure (either apartment house, as assigned, or family type); rotate interviews north, south, east, and west as far as possible; rotate position on side of the block with corner locations to be used in about one interview out of ten; and take occasional upstairs interviews in the two-to-four family structures.

ACTION NEEDED

Before launching the operation, the sample design outlined above was reviewed by the researchers. In doing so, a number of questions were raised concerning the merits of this design. Specifically:

1. How good is the geographical distribution of interviews in such a sample?
2. How likely is this design to provide effective representation in the sample of different family sizes, occupations, religions,

and of other population breakdowns that might be relevant in studying the use of these food products?

3. Does the design provide sufficient safeguards against bias resulting from shifts in population density since 1940?
4. How well are the instructions for selecting families likely to offset the possibility of interviewer bias?
5. Is this sample design needlessly complex?

A brief memorandum is needed evaluating the merits and possible shortcomings of this design, with specific reference to the five questions raised above.

CASE 4—DESIGNING A MULTIPURPOSE SURVEY

BACKGROUND

Very little has been said or done in the past about setting up and conducting surveys that have more than one objective or purpose. The design of such surveys requires a little more effort and ingenuity than that put into the more common single-purpose survey, but it is generally not an extremely difficult task; and the return from a well-designed survey of this type, in terms of the additional information gained as a result of the extra effort, can hardly be better. For, once a survey is to be conducted, any additional expenditures incurred in adding a few extra questions to the questionnaire or in altering the sample design are likely to be negligible in comparison to the original cost of the operation.

The present case illustrates the sort of problems involved in designing a multipurpose survey, the objective of which was to supply information on consumers' attitudes toward a particular product and to throw light on some questions of sample methodology. As will be seen in the course of working out this case, the design of such surveys is more a matter of ingenuity than of technical sampling knowledge.

THE PROBLEM

In the summer of 1950 a research organization was asked to conduct a survey to determine public attitudes toward prefabricated

cated housing and to determine the effect of advertising and other prefabricated housing literature on these attitudes. The survey was to be carried out in a Midwestern city of about 60,000 population, characterized by a heavy incidence of prefabricated housing of a variety of brands and forms. The data were to be collected by personal interview.

Since the chances of sampling bias were to be minimized, the sample members were to be selected in some random manner. In other words, a probability sample was to serve as the core of the study. At the same time, however, it was desired, for future reference, to obtain some information on the possible bias involved in collecting data on the same subject by means of a judgment sample. If the use of a judgment sample appeared to produce little or no bias in the data, this method of sample selection might be used in the future to obtain similar information with less expense than is possible with a probability sample. The problem, therefore, became one of laying out a sample design that would yield accurate information on attitudes toward prefabricated housing on a probability basis and also provide evidence on the possible bias, if any, that might result if the same data were collected through arbitrary selection of sample members instead of through random selection.

ACTION RECOMMENDED

A number of suggestions were received regarding the manner in which the study might be made. One suggestion involved selection of the sample members from the population at large, part by a probability method and part by leaving the selection entirely to the interviewers. Another suggestion would have set up a quota system for the judgment sample, giving the interviewers latitude to select the sample members to fill the quotas. Still another suggestion was that the population be divided into two areas of more or less equal characteristics, with a probability sample being selected from one area and a judgment sample from the other area. An extension of this suggestion was that the population be subdivided into three areas of more or less equal composition; a probability sample would be selected from one area, a judgment sample from another, and both probability

and judgment samples from the third. Such a design, it was contended, would enable some evaluation to be made of the effect of differences between the areas on the findings regarding possible bias resulting from the use of a judgment sample.

Thus, there was general agreement that selection of part of the sample on a probability basis and part on a judgment basis was the most desirable way of ascertaining any bias that might result in the latter case. Agreement was also fairly widespread that some division of the population into areas or strata was desirable as a means of insuring comparability between the probability and judgment samples. The differences arise in the method of obtaining this comparability. In addition to the suggestions in this respect cited above, two others deserve mention. One would divide the population into about six or eight areas of more or less equal composition and have every interviewer conduct both probability and judgment interviews in each area. The other suggestion was to make these areas as dissimilar to each other as possible; that is, the composition of the areas would be homogeneous within and heterogeneous without—the opposite of the preceding scheme—and every interviewer would conduct both probability and judgment interviews in each of these areas.

DATA AVAILABLE

With 1950 Census of Population breakdowns not available at the time the survey was planned, not too much up-to-date information about this city could be found. Its population was known to be roughly sixty thousand. The city directory supplied an enumeration of dwelling units and block listings as well as occupational data by individuals.

On the basis of the cost and time allowed for the study, it was estimated that about five hundred interviews could be conducted. As many as sixteen experienced interviewers were available at the time for use in this study. No previously published data describing surveys on people's attitudes toward prefabricated housing could be located. However, the following references, dealing with the bias in judgment samples relative to probability samples, were found:

- BROWN, G. H. "A Comparison of Sampling Methods," *Journal of Marketing*, XI (April, 1947), pp. 331-37.
- CHURCHMAN, C. W. (ed.). *Measurement of Consumer Interest*. Philadelphia: University of Pennsylvania Press, 1947.
- HOCHSTIM, J. R., and SMITH, D. M. K. "Area Sampling or Quota Control?—Three Sampling Experiments," *Public Opinion Quarterly*, XII (Spring, 1948), pp. 73-80.

ACTION NEEDED

The basic question is that of designing a sample that will yield the desired substantive information, and at the same time provide as closely comparable data as possible on the effects of resorting to judgment selection. Specifically, the following questions must be answered:

1. What sort of general sample design should be used: unrestricted, stratified, area breakdown, or what? If area or strata breakdowns are to be used, on what principles should these divisions be constructed? How will the probability and judgment methods of selection be fitted into this design? Why is this particular design preferable to the alternatives?
2. How should the total number of interviews be split up between judgment interviews and probability interviews? How many interviewers should be employed in this survey? How many interviews of each type should every interviewer make?
3. Exactly what procedure should be used in selecting sample members for the probability sample and for the judgment sample?

CASE 5—DESIGNING A CONTROLLED EXPERIMENT

BACKGROUND

The radio listenership ratings reported by a certain rating service exhibited a declining trend over a number of early post-World War II years. A user of this rating service was puzzled

by this phenomenon and desired to investigate it further. Was this reported trend a true picture of what was happening in the population, or could it be the result of some bias in the method used by the rating service to collect the data? This was the question that the user of this service asked his researchers to answer.

THE PROBLEM

On an a priori basis, support could be found for either case. The listenership surveys of this rating service were conducted in large cities where television stations were in operation. Special studies had shown that families purchasing television sets tended to reduce their listening to radio. The reported declining trend in radio listenership ratings would seem to be entirely in accord with these findings. On the other hand, sales of radio sets had been well maintained during these early post-World War II years. By 1951, about 42 million homes were estimated to have one or more radios, the highest such figure ever reported. Such a state of affairs would hardly seem to be consistent with a decline in radio listenership.

If the method used by the rating service in collecting the data was at fault, one of two recent innovations made by the rating service in its procedure seemed to be the most likely culprit. Both of these innovations had been made during the period under study. One innovation followed from the introduction of television when the rating service began to measure listenership to television as well as to radio. This was done by altering its former question on radio listenership to include television as well. The former question was: "Were you listening to your radio just now?" (If the answer was "Yes," the respondent was questioned about the name of the station and of the program.) As revised, the question read: "Was anyone in your home listening to the radio or looking at television just now?" (If the answer was "Yes," further queries were made about the program and station.)

In this new question, the order of mention of radio and of television was alternated. Nevertheless, the fact that listener-

ship to both media was included in the same question might, it was felt, lead to underestimates of listenership to one or both media.

The second innovation consisted of the addition of a question asking the respondent about listenership to radio or television in the household fifteen minutes before. In other words, after the original question in its revised form, as shown above, was read, and the accompanying questions on program and station, the respondent was asked: "Was anyone in your home listening to the radio or looking at television between . . . and . . . ; or about 15 minutes ago?" (If the answer was "Yes," there were follow-up queries on program and station.)

This procedure was used by the agency as a means of doubling the size of the sample at a negligible increase in cost, for in effect it provided twice as much data on listenership at a particular time, although there was no change in the number of interviews made. Could it be, however, that this procedure might bias the listenership ratings in some form or other?

Investigation failed to turn up any research done previously on this subject, and hence the answer seemed to lie in designing a survey that would supply the necessary data. Such a survey would have to consist, in essence, of a series of controlled experiments in which one factor would be altered at a time.

The exact form the controlled experiment might take was in question. Suggestions ranged all the way from using just one method in the survey—that was, to ask about radio and television listenership separately, followed by queries about listenership fifteen minutes prior to the interview, in conjunction with the listenership ratings provided by the service—to using four distinct methods. In the latter case, listenership data for the same period would be collected from one group of respondents by the same procedure used by the rating service, from another group by the method proposed above, from a third group by asking one question only about listenership to both media fifteen minutes before, and from a fourth group also by asking only about listenership fifteen minutes before but using separate questions for radio and for television listenership.

ACTION RECOMMENDED

In the opinion of some, the rating service should be hired to make this survey, so that one could be absolutely sure that the survey procedures were the same on the controlled experiments as in actual practice. Others maintained, however, that duplication of these procedures was no problem anyway inasmuch as they were simple and widely known—the interviews were made by the telephone coincidental method—and that the use of an independent research agency was the only means of assuring complete impartiality.

The design of the survey clearly had to be one where data on radio listenership would be collected simultaneously in sufficiently different ways to permit an evaluation to be made of the effect, or lack of effect, of each of these two innovations on the accuracy of the data. Question arose, however, over the number of different program periods to be surveyed. These program periods are generally fifteen minutes long in the daytime and a half hour at night—the frequency with which programs change. It was estimated that not more than 5,000 telephone interviews could be completed with the resources available for the survey. Should these interviews be distributed more or less uniformly over the day (and night) and over the days of the week, as some suggested, or should they be concentrated in particular groups, as others suggested?

In this connection it is pertinent to note that there is some tendency in analyzing listenership data to distinguish weekday broadcasts from week-end broadcasts and morning, afternoon, and evening broadcasts. It also deserves mention that the rating service conducted about four hundred telephone interviews for each fifteen-minute broadcast period over an interval of two weeks. It might further be noted that ratings of many daytime radio programs are in the vicinity of 1—that is, 1 per cent of those interviewed during the particular period were listening to that program—and that ratings on the most popular evening shows are not likely to rise much above 10 or 12.

DATA AVAILABLE

The information on the conditions and the limitations surrounding the survey has already been provided in the preceding sections. One additional pertinent fact is that the survey was to be concentrated in one city, a city for which this rating service provided continuing listenership data.

No previous studies could be located on the effect of the two innovations in question except for an oblique reference in the following publication:

PAYNE, S. L. *The Art of Asking Questions*. Princeton, N. J.: Princeton University Press, 1951, pp. 69-70, 102-103.

ACTION NEEDED

In designing this survey, the following questions have to be considered:

1. Who should be hired to conduct the survey—the rating service or an independent research agency? Why?
2. How should the controls be set up to provide all the necessary data? Should the regular data provided by the rating service be incorporated within these controls or should duplicate data be obtained in the course of the survey by the same method used by the rating service?
3. How should the sample be distributed by broadcast periods over the week? Should the distribution be fairly uniform over the week or should the sample be concentrated in certain periods? If the latter, on what basis should this concentration be established?

CASE 6—A PANEL OPERATION ON CONSUMER DURABLE GOODS PURCHASE PLANS

BACKGROUND

One of the basic problems of marketing and economic analysis is that of forecasting consumer purchases. From the point of view of attempting to maintain the economy on an even level,

the forecasting of consumer durable goods purchases is of particular interest because of the often erratic nature of such purchases and because of their leverage effect on business plans and business actions. Efforts to make such forecasts in the past have centered largely on the derivation of statistical relationships for recent years between aggregate expenditures on consumer durables and other relevant variables (aggregate income, time, and so on) and the extrapolation of these relationships into the future.

In general, however, these efforts have not proved very successful, and attention in recent years has been focused on the possibility of forecasting such purchases by asking the consumers themselves. This approach is predicated on the assumption that purchases of the major durable goods, which involve large sums of money, are generally planned well in advance, and that by finding out about such plans it would be possible to forecast actual expenditures for these durable goods. Even if a direct correspondence between plans and purchases does not exist, it is believed that some knowledge of changes in the outlook of consumers with regard to business conditions should yield valuable clues as to the future course of consumer durables purchases.

A researcher obtained a grant of several thousand dollars to conduct a pilot study on the value of this new approach as applied principally to major durable goods ("major purchases" defined as those involving an expenditure of \$25 or more). A continuous consumer panel operation was indicated as the means of testing the approach, since it permits checks to be made on the realization of any stated purchase plans. Because the focus of the study was on major consumer durable goods, the project was planned so that scheduling interviews one month apart represented a reasonable compromise between cost considerations and the desire for accurate information on the realization of purchase plans. On this basis, it was estimated that approximately one year's observation with the panel would be needed to check the validity of this new forecasting approach.

THE PROBLEM

A distinct possibility existed that the type and frequency of consumer purchase plans, as well as the relationship between plans and realizations, might vary by different population groups. The sample, therefore, had to be set up so that information could be obtained on plans and realizations by population groups (income, occupation of head of family, age of head, family size, and so forth) as well as for the aggregate.

Another problem arose, namely, that of incorporating into the panel operation a means of detecting and, if possible, eliminating the effects of sampling bias on the nature of the results obtained. Sampling bias is particularly likely in a continuing panel operation principally because of (a) the repetition of interviews with the same respondents, and (b) panel mortality. These factors are likely to distort appreciably the substantive findings, and it was therefore extremely important that the study be designed so that such effects could be detected and, if possible, measured.

A third problem arising from the panel operation was that of replacing families that drop out of the panel. Dropouts in such a study could be expected to be substantial. On what basis should such families be replaced? How frequently should replacements be made?

DATA AVAILABLE

The panel was to be set up in a city of some 65,000 people, which in many respects was thought to be a fairly representative American community. Preliminary investigations, however, revealed that scant data were available on the characteristics of the city's inhabitants. The study was designed in late 1950, a time when the results of the 1950 Census of Population had not yet been published. The 1940 Census data were judged to be outdated inasmuch as the city had expanded greatly in the intervening decade and had acquired many new industries.

A 1950 population estimate for the city was available. Also available was a city directory for 1950 which, as far as could be ascertained, was reasonably accurate and listed the city's in-

habitants and the marital status, occupation, and place of residence of each by blocks. A block map of the city was also obtainable.

The preliminary investigation revealed little published information regarding sampling bias in continuous panel operations or regarding panel mortality rates. The only bit of information even remotely related to this subject was that non-response rates on the usual one-spot personal interview samples generally vary between 10 per cent and 20 per cent.

Pretests with the questionnaire to be used in the study indicated that between one hundred and one hundred twenty-five completed interviews could probably be obtained each month for twelve months with the funds made available for the project.

ACTION NEEDED

From the sampling viewpoint, the following questions had to be answered by the researcher in designing the study:

1. What sort of sampling design should be used? How can the desired breakdowns be obtained when so little is known about the population? How should the sample members be selected?
2. What sort of sampling biases are likely to arise in the course of the panel operation? How can the sampling design be adjusted to detect such biases if they exist?
3. How much allowance should be made for panel mortality on the various waves of interviews? On what basis should replacement families be selected? How frequently should replacements be made?

The researcher was asked to prepare a memorandum on the design of the study and dealing with the above questions. How would you answer them?

CASE 7—FOLLOWING UP ON A MAIL SURVEY

BACKGROUND

In the fall of 1950, the Bureau of Economic and Business Research of the University of Illinois, in conjunction with the Division of Marketing of the same University and with the cooperation of the Associated Credit Bureaus of America, conducted a survey of occupational credit ratings. This was a repetition of an earlier survey on the same subject made by P. D. Converse in 1940, and to maintain comparability with that earlier study, the same procedure was followed in the later one. Mail questionnaires were sent out to some eight hundred credit managers—half of them store credit managers and the other half managers of credit bureaus—asking them to rate each of some forty-odd occupations as good, fair, or poor credit risks. Since the meaning of these adjectives undoubtedly varies from one person to another, the respondents were asked to define each adjective in terms of percentage of defaults. This device not only served as a means of quantifying the occupational ratings but also provided a vehicle for evaluating the reliability and significance of the results.

A copy of one of the two forms of the questionnaire used in the survey is reproduced on pages 148-49. The other form is identical with the one shown except for the fact that the order of listing of the occupations was reversed. This precautionary measure was taken to forestall the possibility that the credit ratings or the definitions of the adjectives might be influenced by the order in which the occupations were listed on the questionnaire—a possibility that, unlikely as it may seem, proved to be an actuality. However, since the forms were alternated among the respondents, the resulting bias did not affect the validity of the results.

THE PROBLEM

The questionnaires were mailed out through the office of the Associated Credit Bureaus of America. This was done partly to facilitate the mailing of the questionnaires and partly as a

QUESTIONNAIRE USED IN OCCUPATIONAL CREDIT RATING SURVEY

Please define good, fair, and poor credit risks as provided for in question 1a below; then apply your definition to all occupations and rate each occupation objectively. Rate occupations, not individuals. Leave those occupations blank on which your experience is limited.

1. HOW DO YOU DEFINE GOOD, FAIR, AND POOR CREDIT RISKS IN TERMS OF:

- (a) per cent of DEFAULTS: good _____% fair _____% poor _____%
 (b) if part (a) cannot be answered, indicate the basis of classification which you will use in making the occupational ratings.

Occupations	Risk Rating (Check the appropriate column in accordance with 1a or 1b above)			
	Good	Fair	Poor	Remarks
Professional:				
Accountants and Auditors				
Clergymen				
College Professors and Instructors				
Other School Teachers				
Engineers (chemical, civil, etc)				
Lawyers and Judges				
Musicians				
Nurses				
Physicians, Surgeons, and Dentists				
Managerial:				
Business Executives				
Chain Store Managers				
Retail Managers (independent)				
Hotel and Restaurant Managers				
Public Officials (Federal, State, Local)				
Clerical and Sales:				
Office Workers (Clerks and Stenos.)				
Post Office Employees				
Railroad Clerks				

Service Occupations:

Amy and Navy Officers
Soldiers and Sailors (Enlisted men)
Barbers
Bartenders
Domestic Servants
Guards and Watchmen
Janitors
Policemen and Firemen

Agricultural:

General Farmers (Owners)
General Farmers (Tenants)
Farm Laborers

Skilled, Semiskilled and Unskilled:

Common Laborer
Unskilled Factory Worker
Skilled Factory Worker
Truck and Bus Drivers
Coal Miners
Carpenters
Plasterers
Painters
Plumbers
Railroad Workers (Trainmen)
Section Hands
Printers

2. Are your definitions in Question 1 based on operating records or sample studies from which the ratings were made up?
Yes ____ No ____

3. Of workers in the same occupation, which have the better credit rating?

(a) Union ____ Non-Union ____ (b) Home Owners ____ Tenants ____

(c) Married ____ Single ____ (d) Men ____ Women ____

4. Are you a store Credit Manager ____ or Credit Bureau Manager? ____

means of demonstrating to the credit managers the interest of their association in the survey, an interest which, it was thought, would bolster the response rate. At the same time, however, the arrangement about the mailing was such that no identification of the individual returns was possible except by type of credit manager (store or bureau manager) and by city and state of residence, as ascertained from the postmark.

The returns on the survey revealed that 25 per cent of both the 400 store credit managers and of the 400 credit bureau managers circularized sent in questionnaires. Although this response was not out of line with the sort of response rates generally encountered on mail surveys, nonrespondents nevertheless comprised most of the sample, and question immediately arose regarding the representativeness of the returns. Did the returns really reflect the views of all credit managers in the sample and, more broadly, of those in the population, with respect to the subjects under study? Was there any way of determining quickly and economically whether or not the returns were biased and, if so, in which direction were they biased?

ACTION RECOMMENDED

Two alternative courses of action appeared to be open in view of the limitations on further work. One alternative was to do no further work at all on the matter of representativeness; the other alternative was to send out follow-up questionnaires. Following the first approach meant that the returns that had been received would be analyzed and the results presented as based on a judgment sample of unknown representativeness. The rationale underlying this approach was that resort to follow-up questionnaires in such a case was not sound because there was no knowing what one had even if a substantial number of additional returns were received. Many of these returns might duplicate those received on the original mailing, since those respondents would also necessarily receive follow-up questionnaires. In addition, the fact that no classifying information was requested meant that differences between the distribution of the respondents on the two mail waves by selected character-

istics could not be used as a means of indicating the characteristics of the nonrespondents, as is sometimes done.

In other words, it was contended that the additional returns received by such a follow-up mailing were not likely to remove any bias that might be present in the original returns, because the type of person who did not respond in the first place, and whose views might differ from those of the respondents, was not likely to answer now. It was also contended that to send follow-up queries to the respondents might create some irritation on their part toward the sponsors of the study.

On the other hand, those advocating the use of follow-up questionnaires asserted that any additional information was better than nothing. Although the new returns might point to much the same results as the original ones—a phenomenon that admittedly might be due to duplication of returns rather than to representativeness of the original respondents—there was always the possibility that bias, if existing, might show up in the form of sharp differences in the occupational credit ratings on the two sets of returns. Other things being equal, the larger the rate of response, the less the likelihood of the presence of bias due to nonresponse. And although there was no way of avoiding the receipt of follow-up questionnaires by credit managers who had already responded, a properly worded accompanying letter, it was claimed, should hold duplicate responses down to a negligible number and at the same time cause little irritation among the former respondents.

DATA AVAILABLE

The necessary data pertaining to this survey have already been given in the previous sections. In addition, a considerable body of literature exists on the forms of bias likely to be encountered in a mail survey. The following references were found pertinent to the problem at hand:

- CLAUSEN, J. A., and FORD, R. N. "Controlling Bias in Mail Questionnaires," *Journal of the American Statistical Association*, XLII (December, 1947), pp. 497-511.
- ROBINSON, R., "Five Features Helped This Mail Questionnaire Pull from 60% to 70%," *Printers' Ink*, CCXIV (February 22, 1946), pp. 25-26.

SEITZ, R. M., "How Mail Surveys May Be Made to Pay," *Printers' Ink*, CCIX (December 1, 1944), pp. 17 ff.

ACTION NEEDED

1. If you were the researcher in charge of this study, would you recommend the use of follow-up questionnaires or not? Why? How would you answer the objections of those favoring the other course of action?
2. If you do favor follow-up questionnaires, outline the procedures you would use to maximize response (nonduplicated) and avoid irritating the sample members.
3. In either case, how would you interpret the data in your analysis of the substantive results of this study?

CASE 8—TESTING THE VALIDITY OF A JUDGMENT SAMPLE

BACKGROUND

In the spring of 1946 a qualitative study of magazine interests of women was conducted under the sponsorship of the McCall Corporation. The purpose of the study was to provide information regarding some of the qualitative aspects of magazine reading—who reads magazines and why, and to provide comparison with similar studies made in 1939 and 1941. The questionnaire used in this study is reproduced on pages 154-56.

Interviews were scheduled in 153 communities in 32 states. All in all, well over 5,000 completed interviews with women were contemplated.

THE PROBLEM

The sample used in past studies of this kind, and scheduled to be used in this one, was designed on a stratified basis with judgment selection. To quote from the original report, the sample was restricted "to contain *only women* who live, for the most part, *in urban places*, who are *at home when the interviewer calls*, and who *show the interviewer any copy* of one or more of the 22 magazines on the list." (*Italics included.*) Strata were set up by geographic and city-size divisions, and for

each of the 153 communities selected on this basis additional strata were outlined, using marital status and socioeconomic status (prosperous, comfortable, getting by, poor) as controls.

The reasons for using this sample design in the present study were principally to maintain comparability with the earlier studies and to reduce expenses; to conduct such a study on a probability basis on a nationwide scale was felt to be beyond the resources available for the project. In addition, it was reasoned that the restriction of the study to questions of qualitative import—the who and the why of magazine readership—should lead to little or no bias in the results because of the use of the judgment method of selection.

Although this line of reasoning may seem plausible off hand, no empirical evidence was available at the time the study was planned to prove or disprove it. Therefore, some sort of test of the validity of this point was deemed necessary in order to give the results of the study maximum reliability. After some consideration, it was decided to run a probability sample concurrently with a judgment sample in one of the communities selected for study and evaluate the reliability of the national judgment sample on the basis of a comparison of the results of these two samples. In essence, this evaluation study had two objectives:

1. To compare the findings based on a judgment sample with those based on a probability sample with regard to both factual data, such as possession of magazines, and subjective data, such as reading interest.
2. To measure differences between those homes where a woman was found at home and interviewed on the first call and those homes where a woman was found at home and interviewed only after one or more callbacks.

The problem was to set up a sample plan that would fulfill these objectives.

ACTION RECOMMENDED

To minimize the cost of this experiment and to permit use of ABC (Audit Bureau of Circulation) data on magazine circu-

EXHIBIT 1

QUESTIONNAIRE USED FOR THE QUALITATIVE STUDY

National Magazine Survey No. 48

Question 1. What four things are of the most interest to you in the magazines you read? (Don't show this list.)

GENERAL:

- Art, books, music29. 1
Current events 2
Fiction 3
Hobbies, sports, etc. 4
Moral, political, social, economic 5
Movies, theatre 6
Pictures 7
Travel 8
Other general features 9

HOMEMAKING:

- Building, remodeling30. 1
Child care 2
Diet, nutrition, health 3
Entertainment, parties 4
Food, recipes, menus 5
Gardening 6
Home decoration 7
Home management 8
Other home making interests 9

STYLE AND BEAUTY:

- Beauty31. 1
Fashions 2
Needlework 3
Other style and beauty interests 4
ADVERTISING 5

QUESTION 2	3	QUESTION 4	QUESTION 5				QUESTION 6	QUESTION 7							
Please show me the latest issue you have in your home of each of the magazines on this list (Hand card to respondent)	Date of Issue	Please tell me how these magazines got into your home?				A) With what degree of interest do you look forward to receiving each of these magazines?				B) With what degree of interest do the men in your family look forward to receiving each of these magazines?	If you had to give up one magazine which would you miss the least? (Read names checked in Question 2)	If you could keep only two magazines which would you most want to keep for yourself? (Substitute "one" where only two magazines are listed)			
		Mail Subscription	Newstand	Boy	Friend or Neighbor	Misc or Don't Know	Women	Men							
Check magazines shown	Codes	1-5	6	7	8	9	0	56	58	60	62	64	66	68	70
American Magazine	1	34						1							1
American Home	2	35						2							2
Better Homes and Gardens	3	36						3							3
Collier's	4	37						4							4

	Comopolitan	5	38							5											5
	Good Housekeeping	6	39							6											6
	Household	7	40							7											7
	Ladies' Home Journal	8	41							8											8
	Liberty	9	42							9											9
	Life	0	43							0											0
	Look	X	44							X											X
	McCall's	Y	45							Y											Y
	National Geographic	1	46							1											1
	Newweek	2	47							2											2
	Parenia'	3	48							3											3
	Red Book	4	49							4											4
	Saturday Evening Post	5	50							5											5
	Time	6	51							6											6
	True Confessions	7	52							7											7
	True Story	8	53							8											8
	Woman's Home Companion	9	54							9											9
	Woman's Day	0	55							0											0
										57	59	61	63	65	67	69					71

Question 8. Is magazine advertising as a whole interesting to you, or would you rather have no advertising, or doesn't it make any difference?

Interesting10 1
 Prefer no advertising 2
 Makes no difference 3

Question 9. Who does the principal planning and buying of food for your family?

Self11 1
 Other 2

Question 10. Are you (gainfully) employed outside your home?

Yes Full Time12 1
 Yes Part Time 2
 No3

Question 11. Do you own or rent your home?

Own13 1
 Rent 2

Question 12. Number in household (omitting members in Armed Services):

Number of children under 214
 Number of children 2-12 15
 Number of children 13-16 16
 Number of children 17-20 17
 Number of females over 2018
 Number of males over 2019
 Total in family20

Question 13. Number in household over 16 employed (including respondent):

Number of females over
 16 employed21
 Number of males over
 16 employed22
 Total employed23

Question 14. Marital status:

Married24 1
 Single 2
 Widow3

Age of Respondent (Estimate)	Type of Dwelling	Economic Level (Estimate)
15-19 .....25 1	Single .....26 1	A .....27 1
20-24 2	Other .....2	B .....2
25-34 .....3		C .....3
35-44 .....4		D .....4
45-54 .....5		
55 and over .....6		

Name
 Address
 City
 State
 Date28
 Interviewer

Source: The McCall Corporation.

lation by counties, it was suggested that the study be made in Milwaukee County, Wisconsin. Nearly 99 per cent of the population of this county lives in the city of Milwaukee, which facilitates the selection of a probability sample. It was also suggested that ABC circulation figures be used to check on the accuracy of the circulation estimates obtained by the probability and judgment samples, even though those figures were between one and three years old. If the samples were chosen with this purpose in mind, however, there arose the problem of relating the results obtained to those for the main study in which, it will be recalled, sample members were restricted to women at home when the interviewer called.

A recommendation was also made that in the interest of economy, the questionnaire used in this experiment be reduced where possible as compared to the one used in the main study

(page 154-56). Much the same questions necessarily had to be asked in this survey as were asked on the nationwide operation, but the question was raised whether use of the complete questionnaire was needed to produce the desired information.

DATA AVAILABLE

Data available for the city, or county, of Milwaukee did not go much beyond estimates of its aggregate population, of distribution of the population by socioeconomic level, and of magazine circulation. Statistics on dwelling units by local areas and blocks could also be obtained. In addition, preliminary cost estimates indicated that roughly a thousand interviews could be made by each method of selection with the available resources.

ACTION NEEDED

The principal task in this problem is to outline a procedure for selecting the judgment and probability samples and securing sufficient information to fulfill the stated objectives of the experiment. In the course of preparing this outline, the following questions have to be answered:

1. What strata should be used for the judgment sample? What strata for the probability sample?
2. On what basis should the members of each sample be selected—on the basis used in the nationwide survey, or on the basis suggested in the “Action Recommended” section? If the latter, how can the results be carried over to evaluate the reliability of the data obtained on the major study?
3. To what extent, if any, can the questionnaire used in the main study be shortened for the purposes of this experiment? Which questions can be used to study the possible bias in the judgment method in estimating facts, and which questions can be used to study bias arising in the judgment method in obtaining subjective information?
4. How can the second of the two main objectives of this experiment be attained with this sample design?

Part V

COLLECTION OF DATA

A listing of the principal methods used to collect data in marketing studies was provided in the introduction to Part III (pages 62-69). In the introduction to this Part, we shall review these methods from the point of view of the problems and pitfalls involved in the actual collection of data by these methods.

The three principal methods of collecting data are, it will be recalled, by surveys, by observation, and by experiment, with mail questionnaires, telephone calls, and personal interviews as the main variants of the first method. However, from the point of view of the physical processes involved in collecting the data, and from the point of view of assessing field problems, the following fivefold classification would seem to be more relevant: internal records, mail questionnaire, personal interview, telephone calls, and mechanical recording.¹ The relative merits of each of these methods are summarized below.

METHODS OF COLLECTING DATA: ADVANTAGES AND DISADVANTAGES

INTERNAL RECORDS

Advantages

1. Highly economical in terms of the variety of data and number of breakdowns obtainable.
2. Accuracy and reliability of data are generally very high.
3. Most easily kept up on a continuing basis.
4. Relatively few problems of data collection.

¹ Other methods, such as inventory polls and group participation methods, are not taken up in this review.

Disadvantages

1. Danger of antagonizing officials of the company if demands for data are excessive or not well justified.

MAIL QUESTIONNAIRES

Advantages

1. Economical, though sometimes nullified by very low rates of response.²
2. Wide geographic distribution, if this is desirable.
3. Elimination of interviewer bias.
4. Possible greater frankness of response on questions that might prove embarrassing in a personal interview.
5. Certain segments of the population, such as higher income groups, more easily contacted in this manner.

Disadvantages

1. Time consuming.
2. Danger of sample bias: returns may not be representative of the population.

* A well-conducted mail survey will usually have at least a 15 per cent return. If we assume that a personal interview survey secures a 100 per cent return, a personal interview would cost less than each mail questionnaire returned only if the variable cost of the former was less than roughly seven times (100 divided by 15) the variable cost of each mail questionnaire sent out. Variable cost means the total unit cost less unit common costs. Common costs in this case represent all costs common to both methods; that is, those costs that would be incurred irrespective of the method by which the data are collected.

As an illustration, assume the following: 20 per cent return on mail questionnaires, variable cost per mail questionnaire, 20 cents. What is the break-even point between personal interviews per return and mail questionnaires per return? Solution: 100 per cent divided by 20 per cent equals 5 mail questionnaires that must be sent out to receive one return. Five times 20 cents equals \$1, the cost of each mail questionnaire returned with a 20 per cent return and a 20-cent variable cost per questionnaire. This means that for a corresponding personal interview survey to be no more expensive, the cost per interview would have to be no more than \$1, the break-even point. The general principle, then, is that the break-even point between the two methods occurs when the ratio of the variable cost per mail questionnaire to that of the personal interview is the same as the percentage returns for the mail questionnaires.

If callbacks and follow-up letters are used, an increase in unit costs for those sent out will occur. On the other hand, callbacks and follow-ups will cause returns to be higher, so that the proportionate increase in expenditure resulting from follow-ups may be small relative to the increase in the rate of return.

3. Questionnaire must be relatively short.
4. Questions must be simple and easily answered. Open-end questions not very effective.
5. No assurance that the individual addressed is the one who replies.
6. Certain segments of the population excluded, such as illiterates.
7. Follow-ups necessary to interpret omissions and detect non-response bias.

PERSONAL INTERVIEWS

Advantages

1. Detailed information obtainable on behavior and attitudes.
2. The identity of the respondent is known.
3. Response rate considerably higher than on a mail survey, which tends to improve representativeness.
4. All segments of the population are approachable.

Disadvantages

1. Relatively expensive.
2. Danger of interviewer bias.
3. Problem of cheating and misrepresentation by interviewer.

TELEPHONE CALLS

Advantages

1. Perhaps the least expensive of all, in terms of cost per interview.
2. Data quickly obtainable.
3. Random selection very easy; members of the population known.

Disadvantages

1. Method limited to telephone-owning homes.
2. Interview must be brief.
3. Questions must be simple, either of the "yes-no" type or a type which requires short, factual replies.
4. Danger of sample bias even for population sampled because of the influence of the time when call is made on those who

respond; for example, evening calls produce a larger number of male respondents.

MECHANICAL RECORDING

Advantages

1. High degree of accuracy of what is being measured.

Disadvantages

1. Interpretation of data may be perplexing. Thus, an audiometer may record when a radio is on, but does not indicate whether or not anyone is listening.
2. Danger of respondent bias when respondent is conscious that actions or words are being recorded. The use of tape recorders in personal interviews is a case in point.

The Cases in This Part

The most commonly employed means of gathering data are by using internal records, by personal interview, and by a mail questionnaire. It is on these three methods that the cases in this Part are focused. (Reference might also be made to Case 6 of Part II, which deals with the collection of data by another means.)

Gathering data from internal records is the subject of the first two cases. Case 1 poses the problem of designing forms for such data, knowing what is wanted, and Case 2 deals with the question of deciding what data should be gathered.

Gathering data by means of a mail questionnaire is the subject of Case 3, while Case 4 poses the problem of securing respondent cooperation in a survey conducted partly by personal interview.

The next three cases deal with the use of personal interviews. Two of the cases are concerned with the training of interviewers, perhaps the prime source of bias in this method. Case 5 bears on the selection of interviewers for a life insurance survey, whereas Case 6 deals with the associated question of the training of interviewers. Case 7 raises the question of the value of a depth interviewing scheme, including some of the so-called

projective techniques, in evaluating the factors behind consumer purchases of a drug product.

The last case in this Part requires a fair degree of original thought, as it raises the question of devising a means of securing data in a rather unique situation, that of detecting bias in a person's response regarding family purchases and habits.

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Part V Cases

CASE I—OBTAINING DATA ON THE OPERATIONS OF A LAUNDRY

BACKGROUND

The Aswell Power Laundry Company was one of the three major laundries serving the area within and surrounding a city of about 100,000 population. Most of the company's revenues came from laundry operations.

A number of smaller dry cleaning and laundry establishments also operated in this area, but the principal competitors of the Aswell Company were the two other major laundries, each of which was about equal in size to the Aswell Company.

In 1946, the Aswell Company suffered a serious decline in the volume of its operations. After the war, competing companies had made substantial inroads into the business done by the Aswell Company and, under the existing management, there seemed to be little prospect of reversing the downward trend.

This decline in sales, plus poor customer relationships, caused the Aswell Company to discharge its manager and employ another man to fill his place. The officials of the company gave the new manager a clear mandate to do whatever was necessary to lift the business out of its existing precarious position.

ACTION RECOMMENDED

Officials of the laundry were of the opinion that the major problem faced by the company was to obtain enough business to improve the profit situation. As a corollary to this, they also insisted that it would be necessary to raise the profit margin sufficiently to provide a more adequate return on the capital

investment in the business. In line with this objective, they suggested that the following four questions concerning the laundry's operations be investigated:

1. Is the profit margin of the business being influenced by poor personnel relations between management and company workers?
2. Is the equipment in the plant modern enough to handle a sufficient volume to provide an adequate profit margin?
3. Do we need to increase the number of routes that we now have in order to provide a more profitable operation?
4. Will the investment necessary to achieve some of these goals be so high that it will be impossible to go ahead with an expansion program?

THE PROBLEM

In searching for data with which to study these questions, the new manager found that no formal reports of any type had ever been prepared for officers of the company. Apparently, the business had been operating rather successfully for a number of years without any reporting system. Except for the usual laundry sales slips, no records of any kind had been kept, and only occasionally were profit and loss statements made up. The company executives felt that it would be wise to engage in a study of methods that could be used to provide adequate information for the proper management of the concern, at least on those matters that had to do with policy. The board of directors felt that its function should be that of determining policy and that the manager should be the executive officer in carrying out these policies.

ACTION NEEDED

In view of the above situation, the manager's initial task was to determine (a) what data were required to enable a comprehensive study to be made of the laundry's present situation, with specific reference to the four areas of investigation recommended by the directors, and (b) in what manner these data

should be collected. In other words, he had to prepare a schedule listing:

1. The data required for each area of investigation.
2. The methods and procedures by which such data were to be obtained.
3. Other data that might prove useful in studying this general problem and the methods by which they were to be obtained.

CASE 2—DESIGNING FORMS FOR GATHERING INTERNAL DATA

BACKGROUND

As part of a research study of the origins of branch store patronage, it was planned to utilize the credit records of the Boris Department Store. The data to be gathered concerned credit purchases made by customers during specified time periods at the downtown parent store, at the suburban branch stores, and in total.

From an alphabetical list of customers in the ledger books, 9,672 customer names had been drawn in clusters of 62 each. A delivery department expert then went through these names and addresses, separating out all those falling within the specified boundaries of the suburban branch store's trading area. The total of names so selected was 1,360, though later elimination of accounts showing no activity during either time period studied reduced the number to 1,276. This was the sample for which internal purchase data were to be gathered.

NATURE OF THE RECORDS

Neither sales slips nor ledger records ("history" records) were considered usable. Although sales slips offered the possibility of securing additional worth-while information, particularly on identification of items purchased, multiple unit sales, and identity of purchasers, the methods used in filing the slips made it extremely burdensome and costly to locate and assemble the

number of slips involved. The ledger, or "history," records, showing monthly balances and payments for a period of five years, were to be used for checking address changes during the time periods studied, but they lacked the necessary identification of departments patronized and individual purchases made.

The decision had been made, therefore, to use microfilm records. These records reproduced the monthly statements sent to customers (cycle billing not being used by the store). Each month the statements of all those accounts in a ledger (each ledger contained about one thousand names) against which purchases had been made, past due bills rendered, or credits issued, were microfilmed. The microfilm for the same block (or ledger) of accounts the next month, and the next, was spliced on later. Eventually, therefore, each microfilm stored in a single box carried in three successive parts a record of all account activity for accounts in a given ledger. As the store's fiscal year began on February 1, the first roll of microfilm for a given year and a given ledger would include all account activity for, say, names beginning with Aa to those beginning with As for February, March, and April. Thus, Mrs. Bertram P. Arri-more's account would occur on the film three times (if there was activity each month) in three places and always in the same sequence of names.

Because 156 clusters of 62 accounts each had constituted the primary sample, and two yearly periods covering two quarters each had been selected, this meant that 624 separate rolls of microfilm would have to be used in the study. (Although this appeared to be a large number of microfilms, it was far less than the number that would be needed with use of a noncluster randomly selected sample. The fact that placing microfilms in the viewers, locating the names desired, and focusing the machines was the most time-consuming and costly operation, had dictated, in large measure, the nature of the cluster sample design.) The periods chosen were November, 1949, to April, 1950, inclusive, and November, 1950, to April, 1951, inclusive. The branch store had been opened early in October, 1950, and a change in credit records made it impossible to distinguish between branch and parent store purchases after May, 1951.

The monthly statements mailed to customers and reproduced on microfilm carried the following data: a top section showed, from addressograph plates, the name, address, and account number of the customer. Column 1 indicated the number of each department in which a credit purchase had been made during the month. Column 2 identified the month, day, and year of each departmental purchase (two or more sales slips from one department, or multiple purchases on one sales slip, were not always indicated separately). Column 3 gave an abbreviated description of the item or items purchased, such as hat, men's white shirts. Column 4 showed the dollars-and-cents totals for each purchase. Also, the statement showed balances carried forward, credits, and outstanding balances, all of which it had been decided to ignore for purposes of this study.

PROBLEMS FACED

Consideration of data desired and trial inspections of microfilm records showed that the researchers faced a number of problems in establishing satisfactory procedures and designing forms for recording and summarizing the purchase data.

Each department in the parent store was designated by a three-digit number. Each department in the branch store had the same number as its counterpart in the parent store except that it was preceded by the number 1. Thus, the Men's Furnishings Department in the parent store was designated as Dept. No. 150 and in the branch store as Dept. No. 1150. Unfortunately, many individual monthly statements when filmed were allowed to slip slightly out of position. This resulted in blurriness or in part of the department numbers in Column 1 actually being off the film. From an inspection of a sample of films it was estimated that in nearly 10 per cent of cases department numbers would be difficult or impossible to record from the microfilms.

At least two methods could be used to assure, or increase, accuracy of the department numbers. In nearly one third of these cases of bad films, strangely enough the duplicate copy of the microfilm in question made identification possible. Moreover, several members of the store's research staff were familiar

enough with items carried in both stores, with department number assignments, and with the usual methods of item identification, that they could use the descriptions in Column 3 to make accurate identifications of department numbers in nearly all cases. These persons might be utilized either to refer back to films or to examine the data abstracted from them by the original data gatherers to make department identifications when these were in doubt.

Another problem concerned the amount of data to be copied directly from records with or without summaries. Ideally, the data gatherers should copy all data desired without making any computations. This would best assure accuracy of the work. Individual accounts, however, varied widely in the amount of activity. Although many showed only a few purchases, others averaged two, three, or four purchases a month so that several pages were needed to record all transactions for such accounts. Whatever data might be abstracted initially from the microfilm records would be usable finally only when summarized as follows:

For each month of the November, 1948, to April, 1949, period, the total number of days on which purchases were made and the dollar amounts (rounded to the nearest dollar);

For each month of the November, 1949, to April, 1950, period, the total number of days on which purchases were made and amounts at the parent store, at the branch store, and at both stores together; and for both periods the grand total of "days purchased" and "amounts purchased" for each breakdown.

Should data gatherers copy all data for each individual purchase shown, with provision for comptometer operators, or other specialists, to make the needed summaries later? Or should forms and instructions be devised requiring data gatherers to make the appropriate summaries, or part of them, during the data-gathering process? If the latter alternative is adopted, could a method of internal checks be introduced to assure accuracy?

It was estimated that some six hundred hours of work would be required to abstract data from the microfilm records and to

summarize these data. Plans were made to secure eight reading machines to be used entirely by the data gatherers.

ACTION NEEDED

At this stage it was necessary to:

1. determine and lay out the work procedures to be followed,
2. design the recording forms to be used, and
3. prepare whatever instructions for staff workers were required.

CASE 3—MAIL QUESTIONNAIRE METHOD OF SURVEY

BACKGROUND

To ascertain retailers' experience in the use of television as an advertising medium, a mail questionnaire survey was made among those furniture dealers who were using TV during the third quarter of 1952. Also included in this survey were dealers who used television in October, 1949, but who had discontinued its use by October, 1952. This was done to obtain a more accurate and impartial picture of dealer opinion of the usefulness of TV advertising.

A list of TV advertisers in the retail furniture field was obtained from a quarterly publication of the N. C. Rorabaugh Company of New York City, *The Rorabaugh Report for Television Advertising*. This publication was discontinued as of September, 1952. It listed alphabetically by individual TV markets all the local-retail advertisers active during the particular quarter covered.

From this report, 190 retail furniture dealers were found to have used TV advertising at some time during the period from July through September, 1952. Likewise, a check of those dealers who had used TV advertising in October, 1949, but who no longer were using it in October, 1952, revealed that 17 furniture retailers fitted into this category.

To decide which firms should be considered as retail furniture dealers, the classified sections of telephone directories were used. Thus, firms reported by the Rorabaugh Company as

using TV were checked against those shown in the classified sections as "Retail Furniture Dealers" before being included in this study. This tended to exclude retailers who may have had only one department handling furniture and who were classified under some other more pertinent category in the telephone directories.

Because of the nationwide distribution of firms using TV the mail questionnaire method of securing data was used. The fact that the questionnaire was relatively short and could be fitted on one page facilitated the use of this method of data collection. Of one hundred ninety questionnaires mailed, seventy-two (or 38 per cent) were returned; this includes responses received to follow-up mailings. Of the seventeen furniture dealers who stopped using TV, nine (or 53 per cent) returned their questionnaires.

THE PROBLEM

Because of the interest evidenced in this project, it was decided to pursue a similar study in the fields of department store advertising and financial organization advertising (banks and savings and loan associations). This survey, like the preceding one, was also to be on a nationwide basis, i.e., covering all the TV markets. The problem therefore arose of identifying the members of the population, that is, securing the names of department stores and financial organizations advertising over TV during the period selected for study, which was the second quarter of 1953.

A somewhat different way of solving this problem was called for because of the discontinuance of the Rorabaugh Company publication.

QUESTIONS TO BE ANSWERED

1. How could a listing of the members of this population be obtained?
2. How could a listing be obtained of department stores and financial organizations that had used TV as an advertising medium but had discontinued it by the second quarter of 1953?

CASE 4—SECURING RESPONDENT COOPERATION

BACKGROUND

A marketing research class, as its project for the term, conducted a study of patronage at local department stores in the city. In this study, the class had the active cooperation of one of the largest stores, with access to all store records.

Among the facts most important to the study planned, it was felt, were the relative expenditures of different types of families at each of the five largest department stores. Interviewing during the preplanning stage led to the belief that it would be difficult to obtain accurate figures on such expenditures.

PLANNING

Two types of questionnaires were constructed—a personal interview questionnaire, to be used in interviewing city residents, and a mail questionnaire, to be sent to out-of-town customers of the cooperating store. Several different questions were to be tested to determine which would best provide an accurate ranking of total cash and credit expenditures during the past year at the five stores. As a further check on the accuracy of results, a special pre-interview mailing was devised. This was to be sent several days before the date of interviewing. The questionnaire requested information on department store purchases made during October and November. Each purchase by a member of the family was to be identified by date, store name, article, price, and method of purchase (cash or credit). The hope was that women would have to refer to statements, sales slips, or other records, or that, at least, they would have to reconstruct past expenditures with considerable accuracy.

Assurance that the credit purchases reported were accurate when checked against store records would make it far safer to assume that cash purchases (unverified) and expenditures reported at other stores were valid. Respondents did not know that any one store was particularly involved or that the answers could be verified.

During the pretesting stage, the purchase-data form was mailed to 100 picked credit customers of the cooperating store. The following covering letter was used with this mailing:

EXHIBIT 1

Marketing Research Class
School of Business
Metropolis University

November 24, 19—

Dear Madam:

We believe in learning by doing. We are conducting, therefore, an actual and practical study as part of our class work.

The study concerns the services which department stores render you and how they might serve you better. The five stores we are studying in particular are We will greatly appreciate your telling us some details concerning your patronage of any or all of these five stores. The information we need is indicated on the attached page.

One of us will call on you during the week of November 29 to pick up the facts you are giving us. We hope you will be willing then to answer a few questions relating to your opinions of the services rendered you by these stores. By helping us you will be helping yourself and other shoppers.

Sincerely yours,

Members of Marketing
Research Class

RESULTS OF PRETEST

The pretest revealed several difficulties. When follow-up interviews were attempted with these persons, fourteen said no such letter had been received; twelve could not be located at the address given; five persons said they had thrown away the questionnaire; one was reported to be on her honeymoon; two were dead; one was too sick to be interviewed; four said they had lost it; six refused to fill it out; and nine said they would send it in later.

The forty-six completed questionnaires, however, when checked, turned out to be highly accurate. They were consistent with answers given in the personal interviews and, more important, were very close to the purchases as shown by store records. The only discernible error seemed to be the omission of an occasional item or purchase.

Many student interviewers felt that the receipt of the letter in advance had done much to encourage cooperation for the personal interview. A few felt otherwise. It was decided to use the premailing for the final interviewing but to make revisions calculated to induce greater respondent cooperation.

THE SURVEYS AND RESULTS

The form for recording individual department store purchases was individualized to some extent. Students were to fill in the date, the inside address, and salutation (from interviews assigned), and the date on which the interview was expected to be held, as well as to sign each letter personally. The covering letter used appears on p. 176.

Interviewing by previous classes had never received less than 90 per cent response. Results this time were severely disappointing. Of the total city sample of eight hundred fifty-six persons, eighty-seven had moved, or the address given was incorrect; thirty persons claimed to be too sick to be interviewed (a few were dead); one hundred five could not be located despite as many as five callbacks (plus phone calls to arrange interviews); eighteen widely scattered interviews were not attempted; and one hundred thirty-three families refused to cooperate. The final number of completed, reliable interviews was four hundred sixty-seven, of which fifty-nine turned out to represent accounts which were inactive at the cooperating store.

Unquestionably, the pre-interview mailing had backfired. Apparently, when the family members discussed the form, there was a sharp increase in their suspicion that this was really some kind of credit investigation. At least it seemed to many like "prying into personal affairs." Reluctance to be interviewed and on occasion actual hostility were reported. The only fortunate aspect was that nonresponse cut across income

EXHIBIT 2

Marketing Research Class
School of Business
Metropolis University

January —, 19—

Dear Madam:

We believe in learning by doing. We are conducting, therefore, an actual and practical research study as part of our class work.

The study concerns the services which department stores render you and how they might serve you better. The five stores we are studying in particular are We will greatly appreciate your telling us some details concerning your patronage of any or all of these five stores. The information we need is indicated on the attached page. The facts that you tell us will be treated confidentially.

I will call on you . . . to pick up the facts you are giving us. I hope you will be willing then to answer a few questions about your opinions of the services rendered you by these stores. By helping us you will be helping yourself and other shoppers.

Please be assured that I am *not* selling anything and that I have *not* been hired by anyone. I am a student doing this as a part of required classwork and not for money.

Sincerely yours,

lines and account sizes so that the sample shrinkage actually caused little distortion by subgroups in proportionate terms.

The mail questionnaire, while setting no record in terms of percentage of responses, worked well. Only one mailing was made. Of the eight hundred twenty questionnaires sent to out-of-city families, 39 per cent were returned within sixteen days which were reliable and usable. Final returns, including those after tabulations were run, were 43 per cent. The covering letter used with the mail questionnaire appears on p. 177.

REPRISE

Two years later, the marketing research class did a somewhat similar study, this one on out-of-town patronage of local depart

EXHIBIT 3

Marketing Research Class
School of Business
Metropolis University

January 10, 19—

Dear Madam:

We are students doing an actual survey in order to learn market research. Our success depends very much on you.

We are doing a practical, useful study of the five largest (name of city) department stores to learn the services these five stores render to *you* and how they might serve you better.

Only a select few are being asked to cooperate by answering the questions on the attached page. It will take only a few minutes of your time, but to us it means a critical part of our year's work.

We assure you that we have not been hired by anyone, that we are not selling anything, and that none of us is being paid for this work.

Won't you please fill out the form now while it is before you.

Sincerely yours,

Members of Marketing
Research Class

ment stores. A two-page questionnaire was sent to 987 families outside the city. The covering letter appears on p. 178.

One week after mailing (returns had exceeded 33 per cent by that time) a follow-up mailing was used. This was sent only to those who had not answered as yet.¹ Total returns at the

¹ It was essential to the study that individual mail returns be identified so that facts could be keyed with internal data from store records. A system of coding, therefore, had been used. This consisted of: (1) assigning a number to each name in the sample, (2) giving each letter on the questionnaire a number, (3) putting pinpricks over a different letter on each questionnaire, and (4) being sure that the correctly coded questionnaires got in the right envelopes. By using a master code chart, identifications were quickly made of returned questionnaires, and follow-ups could go only to those not answering.

EXHIBIT 4

Metropolis University
School of Business

January 3, 19—

Dear Madam:

Experts are almost no help. Only you can tell us the facts.

We are students learning to do research by doing an actual, practical consumer survey.

No matter how much you shop or how little, your preferences and your actions determine how department stores try to serve you and other shoppers. So in whatever amount or way you shop your answers are very important to us.

We have arranged the questions about shopping so that you can answer nearly every one with a simple check (✓) mark. The many housewives who kindly helped us to make this questionnaire assure us it usually takes less than ten minutes to answer.

Those few minutes of your time, however, are vital to us. For on your cooperation depends the success of nearly a full year's effort on our part. We haven't much money to spend and can ask only a few representative housewives. So we do need your help.

All you tell us will be kept confidential. No one will be bothering you because of any facts you tell us.

Just in case you do not do most of the department store shopping in your family, would you ask the person who does to answer the questionnaire?

We will be grateful indeed to you for checking your answers now and mailing them to us in the stamped envelope enclosed. Thank you.

Sincerely yours,

Members of Marketing
Research Class

end of fifteen days were 55 per cent and (including returns after the cutoff date) finally exceeded 62 per cent.

The follow-up consisted of a business-reply postcard. On the reverse side of the card was this message:

EXHIBIT 5

Dear Madam:

If you are not among the many housewives who have kindly helped us by filling in and returning the questionnaire we sent, we would appreciate very much your doing so now.

So that we may plan our classwork won't you please check one of the blocks on the attached card and return it to us? Many thanks!

Sincerely,

The reply card was addressed to the instructor of the course and contained this message:

EXHIBIT 6

Marketing Research Students:
(check one)

- ☐ I have already mailed your questionnaire.
- ☐ I will fill it in and mail it very soon.
- ☐ I have mislaid your questionnaire. If you will send me another questionnaire and stamped envelope at the address below I will be glad to fill it in.

Name _____

Address _____

An interesting aspect of this follow-up was that the great majority of cards returned came in the stamped, self-addressed return envelopes originally provided together with the completed questionnaires. The daily rate of returns, of course, was rapidly falling off on the seventh day when the follow-up was mailed. Returns immediately shot upward before again tapering off. Relatively few persons were motivated to check Block 3, but the inexpensive follow-up unquestionably boosted returns.

ACTION NEEDED

1. What other methods might have been used to encourage respondent cooperation?
2. How could the appeals used be classified or characterized? Were they the right appeals for the situations?
3. What reasons could be given for the failure of the pre-interview mailing device used?
4. How might the letters used be revised?
5. What advantages, if any, does a school have as compared to a company or a private research agency in securing cooperation?
6. Would the appeals used have to be changed to adapt them to company or agency use? If so, why and how?

CASE 5—SELECTING INTERVIEWERS FOR A LIFE INSURANCE STUDY**BACKGROUND**

The key questions from a preliminary questionnaire that was to be used in a pilot personal interview survey of consumers are reproduced on pp. 181-83. The purpose of the survey was to investigate the extent to which consumers understood the uses and kinds of life insurance that could be incorporated in a family budget and to determine how well life insurance agents were working with prospects and clients in a full utilization of life insurance policies.

The sample for the study was to be selected by use of a random sampling numbers table and a city directory published by Polk & Co. This would provide a random sample which would then make it possible to estimate the sampling error. It was estimated that about seven hundred families would have to be selected in order to provide an adequate sample for the study.

THE PROBLEM

A trial run with the questionnaire revealed that consumers did not know what kind of policies they had, and that they fre-

quently would ask questions of the interviewer that were of a technical nature. In addition, when questions were asked concerning the investment opportunities that life insurance offers, many irrelevant answers appeared. Other questions that raised problems were such as this: "What kind of policy or policies do you now have?" Answers were confusing because the respondent might say, "I think it is twenty-payment life." When asked to produce the policy, the respondent might have a twenty-year endowment policy.

It was clear, therefore, that a very careful and conscientious job of interviewing would have to be done in order to obtain reliable information on the subject. Approximately 20 minutes

EXHIBIT 1

Questionnaire for Insurance Survey

I. Life Insurance as a Tool for Savings and Investment

- A. (1) Do you operate on a family budget? Yes_____ No_____
- (2) Does this budget include a fixed allowance for savings? Yes_____ No_____
- (3) (If answer to 1 or 2 is no) Do you manage to save each year? Yes_____ No_____

B. (1) Where or in what forms do you think your savings are best kept?
(Number in order of importance)

- | | |
|--------------------------|-----------------------|
| () Savings Banks | () Real Estate |
| () Government Bonds | () Cash |
| () Corporate Securities | () Insurance |
| () Own Business | () Building and Loan |
| () Other _____ | |

(2) What in your opinion is the most important quality of a savings medium?

- | | |
|-------------------------|---------------------|
| () Safety of Principal | () Inflation Hedge |
| () Liquidity | () Others _____ |
| () Yield | () _____ |

- C. (1) In your opinion, does life insurance offer an opportunity for saving money? () Yes () No
- (2) Is there any life insurance now in force on your life or on other members of your family? () Yes () No
- (3) How many different individual life insurance policies are in force on the members of your family? _____

D. (If answer to question C (2) is Yes,)—Complete the following table:

(1) Life Insured (e.g., husband, wife, children)	(2) Amount of Insurance	(3) Year Purchased	(4) Type of Policy (e.g., term, whole life, etc.)	(5) Premium Amount, Frequency	(6) Reasons for Purchase	(7) Who Is the Beneficiary	(8) How Are the Proceeds Payable?
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

- E. Do you feel that any of these policies represents a fund upon which you can draw in an emergency? Yes _____
No _____
- F. Do you feel that any of these policies represents a fund which you can use for retirement purposes? Yes _____
No _____
- G. Are you making payments on your house? Yes _____
No _____
- H. 1. Have you made plans for financing your retirement? Yes _____
No _____
2. (If answer is Yes) What plans have been made?
3. (If answer is No) Why haven't plans been made?
- II. A. Has an insurance agent ever offered to coordinate your life insurance into an over-all protection plan? Yes _____ No _____
- If Yes— If No—
- a) Was this plan made? a) Do you feel that such a service
Yes _____ would be useful for you?
No _____ Yes _____
No _____
- b) (If Yes) Was any of your insurance bought to fulfill this plan? b) (If No) Why not?
Yes _____
No _____
- c) Has any agent offered to bring your plan "up to date?"
Yes _____
No _____
- B. 1. (If there is no life insurance in force in family) Have other plans been made for maintaining family financial security in event of the death of the breadwinner? Yes _____ No _____
2. (If answer is Yes) What are these plans?
3. (If answer is No) Why haven't plans been made?
-

were required for each interview, on the basis of the trial run. After allowing for traveling time and callbacks, it was estimated that as few as fifteen interviewers might complete the study within the period allowed if each had a reasonably heavy load. Alternatively, the number of interviewers could be increased, say doubled, each assigned so many less interviews, and the study could be completed so much faster.

DATA AVAILABLE

The following reference was found to contain material pertinent to this problem:

REED, V. D., *et al.* "Selection, Training, and Supervision of Field Interviewers in Marketing Research," *Journal of Marketing*, XII (January, 1948), pp. 365-78.

ACTION NEEDED

1. What principle should guide the researchers in determining the number of interviewers to be hired for this study—fewer interviewers and more interviews per interviewer, or more interviewers, lighter interviewing loads, and speedier completion?
2. What qualifications should the interviewers have for this assignment?
3. What sort of training should the interviewers be given?

CASE 6—INSTRUCTIONS FOR INTERVIEWERS

INTERVIEWER PREPARATION

The questionnaire for a local market study on luggage had been pretested, revised, and then reproduced in quantity. The sample design had been laid out, and interviewer assignments had been completed.

Interviewers listed in the files of the research group then were called. A meeting was arranged for those hired. Nearly all those selected had had considerable interviewing experience. Many of them had worked on the pretest.

The practice of this organization was to provide training for new interviewers. This included brief classes in interviewing techniques, covering such problems as: how to approach respondents, encourage responses, and maintain interest; causes and correctives for bias; how to record answers to various types of questions, handle questions asked, and fill out reports; methods used to gauge the quality of work performed and to check back on interviews held; and compensation. New interviewers

also might be accompanied by a field supervisor for early interviews on their first jobs. Interviewers were compensated for time spent in such training.

On most assignments interviewers met together before the field work began. They then were given their assignments, sufficient copies of the questionnaire, and a sheet of instructions for the particular job. The supervisor made a few remarks about the purposes and methods of the study, any particular problems that were anticipated, and deadlines and compensation. Sometimes a trial run of the questionnaire was made before the entire group. Most of the time, however, was spent in answering questions concerning the questionnaires and instructions distributed for the job at hand.

THE SAMPLE

A combination area-quota sample had been designed. Using the latest Federal Reserve Board figures on family income distribution, five income groups had been established for the city being sampled: the A Group (15 per cent of all families) with incomes of \$5,000 or more; the B Group (28 per cent) with incomes of \$3,000 to \$4,999; the C Group (22 per cent) with incomes of \$2,000 to \$2,999; the D Group (20 per cent) with incomes of \$1,000 to \$1,999; and the E Group (15 per cent) with incomes under \$1,000.

Using Census data, each income group was considered equivalent to several average rental groups. Each of the 388 Census subtracts in the city then was assigned to a rental group based on the average rental for the tract. From these listings random choices of tracts were made of sufficient number to be proportional to the size of each income group. The 34 subtracts thus selected became the primary sample units.

Using Census tables and Block Statistics maps for the city, four city blocks were selected from each of the 34 subtracts which had rentals within the class limits but which represented the spread of rentals as well as the average rentals of all blocks in the tract. Thus, 136 city blocks were chosen as secondary sample units. Four interviews were to be made in each block chosen.

The sample finally was stratified by family size. Each interviewer was given an individual quota (varying among the income groups) for the interviews to be made with families of given sizes. These quotas, in total, were distributed as follows: sixty families of one member, one hundred thirty-five families of two members, one hundred nineteen families of three members, one hundred families of four members, and one hundred thirty families of five or more members. This distribution was based on Census figures for income groups.

THE QUESTIONNAIRE

EXHIBIT 1

Questionnaire for Luggage Survey

1. Does anyone in your family, in this house, own luggage? Yes ☐ No ☐ D.K. ☐
2. How many pieces of luggage are owned? Number _____ D.K. ☐
3. A—Would you please identify these pieces on these photographs? The pictures are the only ones we could get. They illustrate shapes and sizes to help identify the types you own. The appearance does not matter.

	TYPE	A	B	C	D	E	F	G	H	I	J	Other
3A	Number of each type owned											
3B	Leather covering											
	Fabric covering (airplane)											
	Cardboard covering											
	_____ covering											
	_____ covering											
4B	Matched set pieces											

3. B—What type of covering do these pieces have? (cardboard, fabric, leather, imitation leather, or other) RECORD IN TABLE ABOVE. D.K. ☐
4. A—Are any of these pieces parts of matched sets? Yes ☐ No ☐ D.K. ☐
B—If YES: Which types? RECORD ON LAST LINE OF TABLE. D.K. ☐
5. A—Which of these pieces you have identified was bought last? Type _____ D.K. ☐
B—What type of covering was it? Type of covering _____ D.K. ☐
C—When was it bought? Month _____ Year _____ D.K. ☐
D—Whom was it bought for? Self ☐; husband ☐; or wife ☐; other _____ D.K. ☐

- E—Which person bought it? Self ☐; husband ☐; or wife ☐; other ____
D.K. ☐
6. A—Have you, or others in the family, ever given new luggage as a gift to persons outside the home? Yes ☐ No ☐ D.K. ☐
- B—If YES, ASK: When was the last gift bought? Month ____ Year ____
D.K. ☐
- C—Was the gift for a relative ☐ or a friend ☐? D.K. ☐
- D—For what occasion was it given? (Anniversary, birthday, Christmas, going-away, graduation, wedding, Father's Day or Mother's Day.)
other ____ D.K. ☐
- E—What type was it? Type ____ D.K. ☐. What type of covering did it have? Type of covering ____ D.K. ☐
7. A—Has anyone in the family ever received luggage as a gift from persons outside the home? Yes ☐ No ☐ D.K. ☐
- B—If YES, ASK: When was the last gift received? Month ____ Year ____
D.K. ☐
- C—For what occasion? (Christmas, etc.) ____ D.K. ☐
- D—What type was it? ____ D.K. ☐: What covering? ____ D.K. ☐
8. A—Which is the oldest piece of luggage in the family that is still used for trips? Type ____ D.K. ☐
- B—What type of covering has this piece? Type of covering ____
D.K. ☐
- C—In what year was it bought, or received as a gift? Year ____ D.K. ☐
9. A—When was the last time any member of the family used luggage?
Month ____ Year ____ D.K. ☐
- B—Which family member or members? All ☐; wife ☐; husband ☐;
Other ____ D.K. ☐
- C—What kind of trip was it? (Vacation, business, weekend, or visit?)
Other ____ D.K. ☐
10. A—Is any piece of luggage in the family used by more than one member of the family? Yes ☐ No ☐ D.K. ☐ If YES, ASK: All pieces ☐;
some pieces ☐; or only one piece ☐? D.K. ☐
- B—Is any luggage ever lent to persons outside the home? Yes ☐ No ☐
D.K. ☐
11. A—If you were to buy luggage soon what type would it be? Type ____
D.K. ☐
- B—What kind of covering? Covering ____ D.K. ☐
- C—What color? (Brown, tan, black, grey, blue, white.) Other ____
D.K. ☐
- D—Approximately what price would you be willing to pay? Price \$ ____
D.K. ☐
- E—How many years would you expect such luggage to last? Years ____
D.K. ☐
12. Does anyone in the family actually plan to buy any luggage this year?
Yes ☐ No ☐ D.K. ☐
13. A—What color is the family luggage? (Brown, tan, black, blue, grey)
D.K. ☐ Other ____
- B—How many pieces, if any, are striped? Number ____ D.K. ☐

14. Would you tell your *personal* preferences as to using luggage with:
 A—Compartments for many different items ☐ or only a few compartments ☐? D.K. ☐ N.P. ☐
 B—Cloth linings with cloth pockets ☐ or without cloth pockets ☐ D.K. ☐ N.P. ☐
 C—Your initials on it ☐, or without initials ☐? D.K. ☐ N.P. ☐
 15. Is there anything about your present luggage which you dislike or which you have found of no use? Yes ☐ No ☐ D.K. ☐ If YES, ASK: What?

IDENTITY—BE SURE TO COMPLETE THIS SECTION IN EVERY CASE.

Census Tract and Block Number _____ Fa. Type _____

Name of person interviewed: Mr., Mrs., Miss _____

Address _____ Estimated Age _____

How many persons are there in your family (in this household)?

Wife ☐ Husband ☐ children 18 or over, number _____; other children, No. ☐; other adults, No. ☐. Total No. _____

No. No.

Comments (Use back of paper also): _____

EXHIBIT 2

Instructions for Interviewers—Luggage Survey

Please read carefully and fully. Success in this project depends upon your complete understanding of questionnaire procedures.

- Purpose of the survey.** The purpose of our survey is to determine the size and nature of the market for luggage, and to measure the effect on luggage purchases of income, family size, travel, gift-buying, joint-use, durability, and color, material and construction preferences. The survey is expected to aid manufacturers and merchandisers in designing, promoting, distributing, and selling luggage.
- Who is to be interviewed.** Interviews should be made with heads of households, either men or women. Presumably most interviews will be with housewives. Avoid interviewing other persons, or more than one person at a time.
- When interviews should be made.** Tuesday, Wednesday, and Thursday between 10 a.m. and 4 p.m. are the best days and hours, but successful interviews are possible at nearly all times.
- Where interviews are to be made.** Each base assignment includes 16 interviews in four blocks adjacent to or close to each other.

It is very important that interviews be made in the blocks specified on the individual assignment sheets. To be certain of identification, and in order to choose typical dwellings, you should walk around each block before beginning the interviews.

Wherever possible four interviews should be made in each block. The interviews should be distributed also. Make one interview on each side of the block—unless the typical structure of the four-sided block is not located on all sides. Where you find two-story structures to be typical, half of the interviews should be with families on the upper floor. Make only one of the sixteen interviews per basic assignment in a corner house.

The family-size quota may be distributed among the four blocks in any way found easiest. A recommended way of finding families of the size required is to ask interviewees about neighboring families. Please be certain, however, that the quota is accurately filled. The block-assignment sheet may be used for a convenient check sheet. When any one quota is full be sure to ascertain family size before beginning each of the later interviews.

5. *Reliability of interviews.* Try to complete every interview that is successfully begun. If you believe any interviews to be unreliable, mark them as unreliable together with a brief comment. All interviews, however, count as part of your quota.

6. *Entries on questionnaire before interviewing.* Enter the census tract and block number from your assignment sheet and the family type (A, B, C, D, or E) on the line provided in the final Identity section.

7. *Opening the interview.* The following formula usually is successful:

"How do you do? I am _____, a research worker (.). I am making a survey. Will you give me your opinions on a few questions? It will not take long."

If any hesitancy is shown you might add: "The questions are about luggage"—showing the photographs at once—"It will take only a few minutes of your time. May I come in?"

You may find by experiment that another opening works best for you.

Try to conduct all interviews inside the house.

When the person agrees to cooperate, give the following definition of luggage.

"The kind of luggage we are interested in is the luggage in which you put clothes or personal belongings when going on a trip, and which you can carry with you (not trunks)."

Read each question *exactly* as it appears on the questionnaire. Ignore blocks ☐ in reading the questions. Do not rephrase questions. Do not use introductory or explanatory remarks. If question is not understood, read it again. If still not understood, pass on to the next question. (Words in capital letters are for your aid and should not be read to respondents.)

Use a soft pencil. Fill in blocks with a small "x." Lines are provided for write-ins. Answers to questions 6-D (on occasions for giving gifts), 9-C (type of trip taken), 11-C (on color preferences), and 13-A (on color of luggage owned) may be recorded by underlining the occasion or colors listed.

Any spontaneous comments about luggage which seem interesting or important to you should be recorded—almost verbatim—on the back of the questionnaire.

8. *How to handle individual questions.*Q-1. If answer is *Don't Know*

- (1) The person may be confused. Repeat the definition for luggage.
- (2) You may be talking to the wrong family member—try to see the housewife. If you can get only a DK answer, the interview is no good. Try elsewhere.

If answer is *NO*. This is a valid answer. Repeat the definition for luggage to minimize chance of confusion. If answer is still "*NO*" *BE SURE* to get name, address, estimated age, and family size. Report all such interviews.

Q-2. Accept estimates or guesses as to number. If person delays in answering or takes too much time deciding, go right on to Questions 3A and B. If more than 6 pieces are owned, identify *only* as total number of leather, fabric, or other coverings. Do not try to identify each type as to A, B, etc. Record in "Other" space of block.

Q-3. This is a crucial question. Be as careful as possible in making accurate records.

If persons say a piece of luggage is "not exactly like" any of those shown, say "Would you tell me which type shown your piece of luggage most resembles?" Be especially careful to do this if a "Gladstone" is mentioned. Straps are unimportant details.

In recording use the following system of digit recording. **EXAMPLE:** to record ownership of two type A (one of genuine leather and one of fabric) and one type C (fabric)

A	B	C
✓✓		✓
✓		
✓		✓

Q-4. If matched sets are owned (even if only 1 piece) record types (as A, B, etc.) by digit marks in the last line of the Table.

Q-5. The purpose of this question is to secure data on the last *purchase made by the family and for the use of the family*. Gifts, however, may cause confusion. A purchase for a gift to a person outside the home should be recorded in Question 6. The receipt of a gift should be recorded in Question 7.

NOTE: In all cases when identity of type and/or covering is certain, do not repeat the question for 5-B, 6-E, 7-D, 8-B, 10-A for type and covering identity.

Q-6-D. Read the parenthetical listing of occasions *only if the person answers "Don't Know" or is confused.*

- Q-7. If answer to 7-A is NO, proceed immediately to question 8-A.
- Q-8-C. If respondent says "about 1924," or can only estimate the year, indicate by such notation as following: 1924 (about) or 1924 (cert.).
- Q-9-A. The last use of luggage for any kind of trip or visit away from home is desired.
- Q-10-A. Any form of joint use should be counted: separate use of same piece or sharing of one piece at one time.
- Q-11. Ask every part of this question, irrespective of the answer to 11-A. The question should cover actual expectation if a purchase for any reason is actually contemplated. If no purchase is contemplated, then the question should express the respondent's personal preferences and opinions.
- Q-13-A. Underline each color represented in the family luggage. Do not record the number of each color or seek to find the predominant color.
- Q-14. Distinguish between "Don't know" and "No preference" in recording answers. Write in the answer if the respondent says to 14-A "No compartments" or to 14-B "No cloth linings."
- Q-15. Indicate all pertinent remarks and record as many complaints as the respondent mentions. Use the comment section at bottom of page, or the back of the page, if more space is needed.

Identity

Census tract, Block Number, Family Type: Enter these data before the interview. Check against the assignment sheet immediately after leaving.

Get name whenever possible either by question or from mailbox, etc.

Estimate (do not ask) age of respondent.

Be sure to get family size and membership identification accurately.

EVALUATING THE INSTRUCTIONS

Various criteria are used¹ to evaluate and prepare instructions. Some points to be covered, as given by Luck and Wales,² are:

1. What the survey is all about.
2. When the survey is to start and be finished. When to call on respondents.

¹ See J. H. Lorie and H. V. Roberts, *Basic Methods of Marketing Research*. (New York: McGraw-Hill Book Co., Inc., 1951), pp. 391-96, and L. O. Brown, *Marketing and Distribution Research* (New York: The Ronald Press Co., 1949), pp. 500-6.

² D. J. Luck and H. G. Wales, *Marketing Research* (New York: Prentice-Hall, Inc., 1952), pp. 246-47.

3. How many persons are to be interviewed, where and how to select them, and what to do about persons not at home.
4. How to introduce one's self and initiate the interview.
5. How each question should be asked and which ones are contingent on the answers to other questions.
6. Methods of probing, encouraging responses, and aiding memory.
7. If any items are to be observed, what is to be noted.
8. How each questionnaire is to be studied and corrected before returning.
9. What to do with completed questionnaires.
10. When and how she (the interviewer) will be paid for her work.
11. The exact basis on which the quality of her work will be appraised.

Bennett³ reports that frequent criticisms made by field workers about instructions are: "too wordy," "omissions," "too fussy," "ambiguous," and "insults intelligence."

How do the instructions for this survey rate in the light of such criteria and criticism?

CASE 7—DEPTH INTERVIEWING

BACKGROUND

From German processes secured through the Alien Property Custodian the Rilm Chemical Company had developed, and soon after the war introduced, TONE-U into the market dominated by the aspirins and seltzers and occupied by many other preparations, or home remedies, for headaches, stomach pains, and other minor ailments.

The product manager for TONE-U felt that the advertising copy was too imitative of that of the leaders in the field. Moreover, he was not certain that anyone really understood the phys-

³ A. S. Bennett, *Report on Researching Researches* (New York: A. S. Bennett Associates, 1948), p. 12, as summarized in L. O. Brown, *Marketing and Distribution Research* (New York: The Ronald Press Co., 1949), p. 500.

ical and psychological characteristics of users or their ways of thinking of their ills and their self-medication of them. Although TONE-U was still a small factor in the market, its sales were increasing steadily, and the company was willing to devote considerable funds to building volume. The product manager felt confident of larger advertising appropriations to come. He was willing, therefore, to spend several thousands of dollars on marketing research if he could be convinced that a practical study of consumer psychology could be made.

Together with an executive of the advertising agency he had several conferences with a research agency which had considerable experience in psychological and social studies. Encouraged by these discussions he paid a fee of several hundred dollars so that the agency could prepare for him a specific proposal for a study.

THE STUDY PROPOSED

Purpose:

We will study three groups of people: (1) users of TONE-U to determine what characteristics they have in common, (2) users of competitive products to ascertain any important differences, and (3) nonusers. The essential question is why users buy TONE-U and what it is in their feelings, habits, and attitudes which accounts for their purchase. Knowing these things, the manufacturer and advertiser can direct their work to communicate more effectively with the users of TONE-U, to compete more effectively with related remedies, and to attract those nonusers who can be expected to find it helpful.

Sample:

We shall interview approximately 300 persons from the main stream of American life, divided approximately equally among the three groups mentioned.

Methods:

We shall ask these persons questions about the kinds of medicines they keep in their homes; what kinds they use only when a doctor tells them to; what kinds they use on their own judgment; what they think about home remedies and what experience they have had with them; what they think about the way these preparations work; why so many people use aspirin; what kinds of people they know who do (and who

don't) use medicine and to describe a particular person as an illustration; what kinds of disease they think are the worst; and to tell us a story about a picture which we shall show them. We also shall get information from them about their occupations, living quarters, education, and where they came from. Our interviewers will take notes on the kind of furniture they have and the impressions their homes give to a visitor.

We shall listen to and take notes on what they think about doctors, medicines, illness, doctors' patients, self-diagnosis, sick children, and all the related topics that come up—some because we ask about them, some because questions we ask bring other things to mind and we want to know what these other things are. Then we shall read over the notes about the interviews to interpret the findings, thinking about the attitudes which have been expressed on the many topics, the likes and dislikes of respondents, their beliefs about who goes to a doctor and who does not, and their explanations about how TONE-U works. Also, we shall concern ourselves with the question of why they say things, why they believe the things they do, and why they keep or do not keep medicine in the home.

Then we shall attempt personality interpretations by reading their stories over with an eye to the kind of things they imagine; what they do or don't imagine can be done about these personal concerns; how they feel about people; the diseases, the virtues, and the inadequacies they perceive; the wishes, the dreads, the catastrophes they conceive; and how they put them to work in the situation. In short, we shall find out something of what their private worlds are like. We shall match this with a social analysis from what we learn of their homes, jobs, ages, occupations, and their parents. With that we shall know what kind of person each one is. Finally, we shall put them into groups—people who have the same social worlds, people who have the same personalities, people who buy a lot of TONE-U, people who buy none, people who buy some, people who buy only other remedies. From these we can build up composite pictures to answer the questions of the research.

Application:

From such a study of the personalities of users we can learn what they need, and what they find in TONE-U. This knowledge will establish the basic appeals which can be used by the advertiser. From the study of social classes involved we can learn what they listen to, which will be information to the advertiser about how to state his appeals so his audience will hear and accept his words.

The Questionnaire

The following is a draft of the type of questionnaire we would propose to use. Introductory remarks are omitted.

1. a) Do you now have any of these in your home? Which ones?
(Respondents will be handed a list of brands.)
b) Have you had any of them in the past?
(Interviewers will record comments offered in addition to *yes* or *no* for the above questions.)
c) (If the answer is *yes* to any of the above, the interviewer will ask the following questions.)
Who made use of the preparations?
For what purpose were they used? For what ills? Was the aim to prevent, to cure, to relieve?
How often did you use it? Just once? Over a period of time for a given difficulty?
How often do you use it from time to time for different difficulties?
How effective did you find the (product name)?
d) (If the respondent says *yes* only to aspirin, and *no* to the others, the interviewer will ask the following.)
Do you keep any medicines in the house (and/or office, where applicable)?
What kinds are they? That is, were they prescribed by your doctor?
What kinds do you have that were not bought by prescription?
What kinds of medicine do you give to the children (if any)?
What do you do for minor illnesses? That is, for yourself or other members of the family?
2. I would like you to think of the heaviest user of the preparations mentioned earlier (brand names) that you know.
Why does (s)he use them? What for? How often?
What is your opinion of the way (s)he uses it? Does (s)he seem to feel it helpful?
What kind of person is (s)he? Could you tell me something of what (s)he is like?
3. I would like you to think of someone you know who practically never uses any medicine.
Why doesn't this person take any medicine?
What kind of person is (s)he? What's (s)he like?
Do you think (s)he really doesn't take medicine, or do you think

maybe (s)he takes real pride in being healthy and doesn't like to admit taking anything?

4. What kind of people prefer to take care of themselves when they are sick? (If respondents find this hard to respond to spontaneously, interviewers may suggest: children, old people, men, women, workers, smart people, scared people, etc.)

Do you think of some particular person who is this way?

What is (s)he like otherwise?

5. What kind of people prefer to go to a doctor?
6. How much home medication do you think a mother ought to give her children? What kinds of measures might she take for what kinds of illness or complaints?
7. What's your opinion on why aspirin is used by so many people for so many different things?
8. Why do remedies like TONE-U work on different bodily troubles? (If the answer is scanty, the interviewer will ask something along this line: What kind of process goes on in the body when remedies like TONE-U are taken?)

9. What kind of illness or bodily disease is worst in terms of the hardships and handicaps it leads to?

What kind do you think is most unpleasant?

10. Now there's just one more thing left. I'm going to show you a picture and I would like you to make up a story about it. *Tell what the people are doing, how they feel, what they are thinking about, what has happened to them in the past, and what you think is going to happen to them in the future.* People tell all kinds of stories about pictures like this, so just make up any story that the picture suggests to you. (Various pictures will be used on various persons with differing apparent pains or troubles.)

ACTION NEEDED

The product manager was impressed by the many possibilities of this study. However, he had some doubts about the reactions which some members of the company might have to such a study, some doubts about the adequacy of the sample, the quality of the interviewers to be used, and the worth of some particular questions. Should he accept the proposal? Should he accept it subject to some changes and, if so, what changes?

CASE 8—HOW CAN THE DATA BE OBTAINED?

BACKGROUND

In 1951, a study was undertaken to evaluate the reliability and consistency of replies of individual family members on sample surveys. The background of this study and the problems it sought to answer are given by the following excerpts taken from the original project proposal:

The relative influence of each of the sexes on consumer purchases is of considerable interest and importance to marketing, sales, and advertising people alike. About ten scattered studies have been made during the past thirty years in attempts to answer this question for certain commodities, for certain areas, or for certain classes of people. These surveys have generally taken the form of asking one member of a household to state who influences most the purchases of particular commodities. In some cases the respondent will be asked to state who does the actual purchasing as well. The fact that the respondent happens to be, unavoidably, a family member himself (or herself), and is therefore intimately concerned on such questions has long been recognized as a serious potential bias, how serious nobody knows.

About the only attempt made to correct for this bias has been to request the opinion of college students as to which of their parents exerts the dominant influence on the purchases of particular products. However, this procedure eliminates one unknown bias (and then only to the extent to which the students themselves are not concerned in the reply) at the expense of introducing another bias; namely, that due to the student's lack of knowledge as to which of the parents wields the power of the purse on particular items. Again the probable magnitude of this bias has never been determined. In all the previous studies only one member of a family has been questioned *and no attempt has been made to verify the respondent's replies by securing answers to the same questions from the other members of the family.* This is obviously the only means of ascertaining the reliability that can be placed in the replies of the respondents.

It is therefore proposed to conduct a survey that would answer the following two questions:

1. What is the degree of agreement between men and women as to the relative influence of the sexes on consumer purchases?
2. To what extent do children's opinions of the relative influence of

each of their parents on family purchases agree with those of their parents?

At the same time, it is also proposed to test the reliability of various other types of questions, e.g., questions on the labor force, income, in the same manner.

THE QUESTIONNAIRE

The questionnaire designed for the study is reproduced on the following pages. It was contemplated that all adult (sixteen years of age and over) members of the sample families were to be interviewed, and that one copy of the questionnaire would be filled out for each family member.

EXHIBIT 1

Study of Sample Variability

1. a) Has anyone in your household bought any durable goods since last September, that is, items similar to those listed on Card A?

Yes _____ 1 No _____ 2 Not sure _____ 3

- b) If yes, what was bought? (Please list items purchased below and answer parts c through f of this question for each item.)

(a) (b) (c) (d) (e)

- c) Which member or members of the family made the actual purchase?

- d) Now, as we all know, the person buying an article is not always the same as the one who is most interested in having the purchase made. In the case of each of the above items, which member or members of the family were most instrumental in getting the purchase to be made?

- e) How was each of these purchases financed?

- f) Why was each of these purchases made at that particular time?

2. a) Are any of you planning to buy any durable goods between now and next September?

Yes _____ 1 No _____ 2 Not sure _____ 3

- b) If "yes" or "not sure," what is each of you planning to buy?

(a) (b) (c) (d) (e)

Item _____

Member(s) _____

c) Do you know when it will be bought?

d) Do you know where it will be bought? (Name of store if possible)

e) How do you plan to finance it?

3. It is commonly known that the wife usually acts as purchasing agent for the family although she may be acting after consulting with other members. For example, the wife may buy all the linens though various towels and handkerchiefs may be bought to satisfy the preferences of the husband or of some of the children. Can you give us a rough idea of the relative influence, in percentage terms, that each member of your family has upon the purchase of each of the following items? Make sure that the total of each row is 100 per cent.

	Husband	Wife	Son	Daughter	Others (please specify)				Total
Car	_____	_____	_____	_____	_____	_____	_____	_____	100%
Living-room furniture	_____	_____	_____	_____	_____	_____	_____	_____	100%
Table model radio	_____	_____	_____	_____	_____	_____	_____	_____	100%
Phonograph records	_____	_____	_____	_____	_____	_____	_____	_____	100%
Refrigerator	_____	_____	_____	_____	_____	_____	_____	_____	100%
Dentifrices	_____	_____	_____	_____	_____	_____	_____	_____	100%
Breakfast cereal	_____	_____	_____	_____	_____	_____	_____	_____	100%
Linens	_____	_____	_____	_____	_____	_____	_____	_____	100%

4. a) Do you have a family budget in the sense of either

(1) keeping breakdowns of all expenditures by the week or month?

Yes _____ 1 No _____ 2 Not sure _____ 3

or

(2) planning future durables expenditures on the basis of some schedule?

Yes _____ 1 No _____ 2 Not sure _____ 3

b) If you have a budget, which members of the family assist in preparing it?

5. Do you feel that your family is financially better able or worse able to buy durable goods now than, say, a year ago?

Better _____ 1 Worse _____ 2 Not sure _____ 3

Is this because:

- a) The family income has changed over the past year? Yes ____ No ____ 1
Not sure ____ 4 If yes, how? Has your income been rising ____ 2
falling? ____ 3
 - b) Your liquid savings (cash plus money in bank plus U. S. bonds) are now different? Yes ____ No ____ 1 Not sure ____ 4 If yes, how?
Have your savings risen ____ 2 fallen ____ 3.
 - c) Other reasons _____.
6. In the coming six months do you expect your family income to be higher, lower, or about the same as in the last six months?
Lower ____ 1 Higher ____ 2 About same ____ 3 Not sure ____ 4
 7. Is there anything that you believe will be hard to get during the next six months because of our mobilization program?
Yes ____ 1 No ____ 2 Not sure ____ 3
 8. Do you expect our relations with the Communist nations to get better, worse, or not to change during the next six months?
Better ____ 1 Worse ____ 2 Not change ____ 3
 9. a) How many members are there in the family? _____
b) How many family members are under 14 years of age? _____
 10. a) What is your position in the household _____
b) What is your employment status?
Housework _____ School _____ Looking for work _____
Employed _____ Other _____
 - c) If employed, what do you do? _____
 11. Please indicate your age bracket below.
Under 20 ____ 1 20-34 ____ 2 35-49 ____ 3 50 ____ 4
 12. a) In which of the brackets shown in Card B does your income fall? ____
b) How about the income of the entire family? _____
-

THE PROBLEM

The collection of data for such a study poses a major problem; because of the objective of the study, the data must be obtained from the individual family members in such a way that each family member has no knowledge of the replies of the other family members at the time of the interview. Obviously, if the members of a particular family heard of the nature of the survey beforehand and had an opportunity to discuss their opinions of the subject, the replies of that family would be valueless. The same would be true of a questionnaire of an individual hearing in advance of the scope of the survey.

The problem is, therefore, essentially one of securing the information from the family members not only separately but seemingly, and paradoxically, simultaneously as well. Tact is obviously a major consideration in securing these data, for any irritation of sample respondents may well lead to a refusal. This matter is of particular importance in explaining the purpose of the survey to the sample families. For what reason can be given for wanting to ask the same questions of the different family members?

ACTION NEEDED

The sample design has been laid out, the sample families have been chosen, the questionnaire has been completed, and the interviewers have been trained. The question now becomes one of determining how to approach the sample members. In other words, a complete set of instructions is needed describing:

1. How the initial contact is to be made.
2. How the purpose of the survey is to be explained to the respondents.
3. How the actual interviews are to be conducted.

Part VI

EDITING AND TABULATION

Although editing and tabulation are generally considered as the beginning of the “winding up” phase of a research study, to be done after the data have been collected, these operations may at times be carried out advantageously concomitantly with the collection of the data. This is particularly true in situations where the possible answers can be determined in advance—as in the case of dichotomous * and multiple-choice questions—and where the survey is relatively small and the staff working on it relatively few, so that specialization of operations is not feasible.

A Review of Some Basic Considerations in Editing

For the most efficient results, editing should be the responsibility of a number of individuals and not exclusively of the one with the title “editor.” Specifically, editing concerns the following persons:

1. The interviewer—who should review his questionnaires for vague or inconsistent replies, illegible answers, and omissions.
2. The field supervisor—who should check that the interviewers have followed instructions and that answers have been provided in the prescribed manner.
3. The office staff—who should:
 - a) Verify the internal consistency of the questionnaires in so far as possible.

* Questions where there are basically only two possible, mutually exclusive answers, e.g., yes-no, male-female.

- b) Rectify errors and omissions.
- c) Ensure comparability between questionnaires.
- d) Determine the classifications to be used in the subsequent tabulations and analyses of the data.

Preliminary classifications are generally set up at the time the questionnaire is constructed, but the final determination or check is best left till the data have been collected. It is a good idea to check the final classifications by tabulating a small randomly selected sample of the returns. Such a pretabulation enables corrections to be made to reduce the frequency of near-zero categories and of heavy concentration of replies in other categories.

The Case for Precoding

Whenever the answers possible on a questionnaire can be listed in advance, the advisability of precoding may well be considered. Placing code numbers directly on the questionnaires can be a considerable timesaver. In the case of manual tabulation, this procedure facilitates the preparation of worksheet tables direct from the questionnaires, eliminating the intermediate step of coding and transcribing the replies to posting sheets. In the case of machine tabulation, proper arrangement of the questionnaire combined with precoding enables punch cards to be made directly from the questionnaires.

On the other side of the ledger, precoding is not advisable if the answers to be classified cannot be foreseen with a high degree of assurance, or in the case of long, probing interviews where undesirable forcing of replies might be necessary in order to categorize them. In addition, precoding must appear unobtrusively on mail questionnaires, lest the respondent be confused by the profusion of numbers.

Manual vs. Machine Tabulation

A summary of the main considerations entering into the selection of a manual or machine tabulation method is provided on the next page.

Manual

1. Useful in small numbers of questionnaires with relatively few questions, lists of items to be checked, and relatively few cross tabulations.
2. Useful in depth interviewing in which a formal questionnaire is not used.
3. Useful in pilot tabulations for planning machine tabulations.
4. Time-consuming in the posting operation.

Machine

1. Useful for a large number of questionnaires, with numerous items and cross classifications.
2. Generally useful for items that can be classified into meaningful categories.
3. A combination of both manual and machine may be useful if detailed analysis, such as for brand preference, is needed.
4. Time-consuming in the coding and punching stages.

Mark Sensing. This is a mechanical method somewhat similar to punch card work, except that instead of punching the information on the card it is marked with an electrically sensitive pencil. These cards are passed through special tabulating machines which pick up the markings electrically and tabulate the results. This method possesses the advantage of eliminating the punching operation, but can be used only where clear-cut answers are involved, e.g., yes—no and multiple-choice questions. Among other uses, it is a popular device for marking examinations composed of questions of these types.

Keysort Tabulation. This is a semimechanical method based on the use of cards with circular holes in the margins. These cards can be punched in such a way that when a long needle is inserted, the punched cards remain on the needles. Counting must be done by hand.

Findex Method. This is based on the use of cards with holes already punched in them. The information to be recorded is punched on the card by connecting two adjacent holes. A special filing drawer is used to hold the cards; when a needle or rod is thrust through the front of the file drawer, the holes in the cards that have been slotted will be elongated so that when the drawer is turned over, all the cards punched for a particular hole will drop down into position. The cards are then locked in this position, the drawer is turned over to its original position, and the cards are then counted.

Keysort and Findex methods are mainly useful in studies based on several hundred cases where the information obtained for each case is not too detailed or comprehensive.

The Cases in This Part

The five cases in this Part provide practice materials in all three of the aspects of the research operation reviewed on the preceding pages—editing, coding, and tabulation. Here the emphasis is, if anything, more on detail work than on general policy considerations, on the actual devising of codes, methods of tabulation, and tabular layouts, because it is only after doing a considerable amount of work of this type that the beginning researcher becomes aware of the various problems arising at this stage of the research operation. The first two cases deal with editing and coding. The first case deals with the editing of responses and devising a coding system for the replies to one part of a frozen food questionnaire. The second case involves the precoding of a questionnaire for a bacon survey containing questions representing a fairly broad range of coding problems.

Tabulation is the subject of the next three cases. Case 3 involves the preparation of forms for manual tabulation of a jewelry survey where time is the main consideration.

Case 4 poses the frequently encountered problem of choosing a method of tabulation, the subject here being a rather lengthy insurance questionnaire. The question of editing the questionnaire is another part of this case.

The last case carries the research operation a bit closer to completion, involving the specification of cross-classification tabulations and the preparation of tentative summary tables for a department store survey. The student is asked not only to list the tables but to lay out each in detail.

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- LUCK, D. J., and H. G. WALES. *Marketing Research*. New York: Prentice-Hall, Inc., 1952. Chapter 12 contains a detailed treatment of editing and tabulation methods.
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Part VI Cases

CASE I—EDITING RESPONSES

BACKGROUND

The rapid expansion of the frozen food industry in the 'forties had caused severe problems of quality control. Many purchasers of lesser known brands had been dissatisfied with the poor quality of products received. Processors with well-known brands believed that this problem had been greatly alleviated both by improved techniques and experience and by the withdrawal from the field of many small companies. Nevertheless, the problem seemed sufficiently important to be included among other topics in a personal interview survey on frozen foods being planned. It provided a possible explanation for the limited use of frozen foods, the brand preferences of consumers, and consumers' attitudes on price. The informal investigation, moreover, had shown that many women still remembered these past disappointments.

For the questionnaire constructed for testing in the field, no satisfactory classification of complaints by consumers had been found. For testing purposes, therefore, it had been decided to ask an open-end, exploratory question. The question used was worded as follows:

6. Have any frozen ^{(A vegetables} _{(B fruits} ever spoiled?
- ANS. A. VEG. YES _____ NO _____ NO ANSWER _____
- B. FR. YES _____ NO _____ NO ANSWER _____
- IF YES, ASK: What was the cause of spoilage? _____
-

This question followed one on methods of storage used in the home. Interviewers were expected to ask about either vege-

tables or fruits or both, depending on which the respondent already had indicated that she purchased.

RESPONSES SECURED

A. For those indicating vegetable spoilage:

1. One package of corn was "soggy." "I'm not exactly sure but I think it must have been poor quality because I thawed it just like other vegetables."
2. Poor handling by the maid.
3. Once spoiled after three days when refrigerator broke. Won't spoil "when kept properly."
4. Got asparagus twice that was "gritty." "It was so bad we wouldn't eat it."
5. Has lost several packages at different times. Not sure whether they thawed before she put them in the refrigerator.
6. Tried broccoli once. Forgets which brand. Was "rotten." Her grocer gave her her money back.
7. Just last week had some mixed vegetables that didn't "taste right." Her family refused to eat them.
8. "You have to be awful careful not to let them thaw and then freeze again." Uses hers right after buying.
9. Doesn't know why but just doesn't like the taste of (*brand*) green beans. Won't buy again.
10. Cube compartment was full and a package thawed out.
11. Says threw lots away when had to buy "strange kinds." Buys only (*brand*) now and has no trouble.
12. Didn't like the looks of wax beans once. "I said, 'Into the garbage with them.'"
13. Not really spoiled but didn't seem "worth the price."

B. For those indicating fruit spoilage:

1. Thinks they were spoiled before she bought them. Probably "low grade" fruit.
2. Peaches often get discolored when they thaw out.
3. Reluctant to say directly that anything had "spoiled," but said she had to throw out frozen strawberries because they "did not look edible" after thawing. "They were shriveled up and watery."
4. One package of grapefruit segments turned watery. This resulted in no more purchases of that fruit.

5. One brand, she forgets which, of strawberries "looked simply terrible." Discarded them.
 6. Some peaches looked fine but "tasted like they had acid in them."
- C. For those indicating both vegetable and fruit spoilage:
1. Lima beans were spoiled in store and not noticed 'til home; peaches too salty and made them taste very poor.
 2. Thawed out before they were put in freezer cabinet as they were purchased downtown and lady didn't get home as soon as she expected to.
 3. Complains that frozen foods not always clean. Can see "little bits of all kinds of things" in them.
 4. Says that peaches, especially, sometimes taste sour. A package of peas she left in too long was no good.
 5. Asks if I don't think frozen spinach "tastes funny" sometimes. Had some "funny colored" peaches she refused to serve her family.
 6. Wonders what "they put in" frozen foods. Has to cook them so long to taste right. Grapefruit once had some "green" in it and looked "poisonous."
 7. Corn was "all water" once. Likes (*brand*) strawberries but wouldn't buy other kinds "any more."
 8. Learned you can't keep any frozen foods too long unless you get them "right by the coils" after coming from store.
 9. Only lost one "thawed out" package of peas once. Thinks most frozen fruits have a peculiar taste.
 10. Fruits tend to "come apart." Had lima beans that were "full of spots."

These were the only "complaints" registered by the 143 respondents. Approximately 35 per cent reported that they did not use frozen foods. Many more families purchased vegetables than fruits. In nearly half of all families frozen foods were served the same day that they were purchased. Only a small percentage kept them on hand more than two days. Among comments of those not reporting spoilage were these: "Always keep food frozen and in cube compartment"; "If you handle them properly they won't ever spoil"; "I hesitate to keep fruits any longer than a day because they start to run if I do"; "I can keep them for a week without spoiling." Interviews

were conducted among widely scattered neighborhoods, and no formal sample design had been followed.

ACTION NEEDED

1. What sort of system of headings or subheadings might be devised as a basis for classifying these answers? How should each answer have been classified?
2. Based on the evidence obtained, should the question on spoilage be eliminated? Should it be revised, and, if so, how?

CASE 2—PREPARING AND PRECODING A QUESTIONNAIRE

THE SURVEY

A survey on the consumption habits of consumers with regard to packaged bacon was planned for a medium-sized city in 1952. After due deliberation among the staff members of the research organization planning the study, the following list of questions to be included in the questionnaire was prepared:

EXHIBIT 1

-
1. a) Do you use bacon? Yes ____ No ____ Not Sure ____
 b) If yes, is it packaged bacon or slab bacon or both?
 Packaged ____ Slab ____ Both ____ N.S. ____
 2. If you were buying a package of bacon right now, would you look for any particular brand? Yes ____ No ____ N.S. ____
 If so, which one(s)?
 Armour ____ Oscar Mayer ____ Wilson ____
 Cudahy ____ Swift ____ Other ____
 3. What (other) brands can you name? None ____ N.S. ____
 Armour ____ Oscar Mayer ____ Wilson ____
 Cudahy ____ Swift ____ Other ____
 4. Which of these brands have you heard of? (*Show card*)
 Armour ____ Swift ____ Reese ____
 Cudahy ____ Wilson ____ None ____
 Oscar Mayer ____ Smith ____
 5. How often do you use packaged bacon?
 Every day ____ Less than once a week ____
 Every other day ____ Not sure ____
 Twice a week ____
 Once a week ____

6. At what meals do you use packaged bacon?
 Breakfast _____ Noon _____ Evening _____ N.S. _____
 Do you use packaged bacon by itself, with another type of meat, as seasoning for vegetables, or in more than one of these ways?
 By itself _____ With meat _____ With veg. _____ N.S. _____
7. Do you usually buy packaged bacon from a meat market or combination store?
 Meat market _____ Combination store _____ Both _____ Other _____
 N.S. _____
8. Do you prefer any specific brand? Yes _____ No _____ N.S. _____
 If so, which one?
 Armour _____ Oscar Mayer _____ Wilson _____
 Cudahy _____ Swift _____ Other _____
9. Why do you prefer this brand? _____
10. (1) If the store that you go to is out of stock of _____ bacon, what do you do: (a) ask for another brand (b) accept a substitute brand only after looking in one or two other stores for _____ bacon, or (c) wait until _____ bacon is in stock again? (a) _____ (b) _____ (c) _____
 N.S. _____
- (2) (If a or b) If so, which brands?
 Armour _____ Oscar Mayer _____ Wilson _____
 Cudahy _____ Swift _____ Other _____
 N.S. _____
11. What qualities do you like your bacon to have?
12. How often do you buy fresh meat?
 Every day _____ Other _____
 Every other day _____ Don't buy _____
 Twice a week _____ Not sure _____
 Once a week _____
13. Family size _____
14. Number of children _____
15. Occupation of head of family:
 Professional _____ Unskilled _____
 Skilled _____ White Collar _____
16. Age of housewife: Under 20 _____ 20-34 _____ 35-49 _____ 50+ _____
17. Income level:
 Under \$1,499 _____ \$4,200-6,599 _____
 \$1,500-2,599 _____ \$6,600-10,399 _____
 \$2,600-4,199 _____ \$10,400 and over _____
18. Address _____
19. Interviewer _____
20. Date _____

The questions in this list are not necessarily in the most logical order, as they were noted primarily in the order in which they were suggested.

The nature of the information desired was such that it was estimated that approximately six hundred completed inter-

views would be required. Because of this large number of interviews, a mechanical means of tabulation was to be used, the data being transcribed to punch cards and then tabulated by machine. To save time and expense, the questionnaire was to be precoded. For analytical purposes, it was considered highly desirable if the answer to such questions as 2, 3, 4, and 8 could be designated by a single code number, so that a glance at the code number for any particular question would indicate which brands had been named. In this connection, it should be noted that slab bacon is not usually sold under any particular brand name.

ACTION NEEDED

1. Prepare a working questionnaire from the questions in the above list, putting them into some logical order.
2. Precode the questionnaire, showing all codes directly on the questionnaire form, making sure that allowance has been made for all possible answers to each question.

CASE 3—PREPARATION OF FORMS FOR MANUAL TABULATION

BACKGROUND

In 1948, a study of the operating results of retail jewelry stores was conducted by the Business Research Bureau of a leading university. The purpose of this investigation was to provide a standard by which a businessman could compare his operating experience and methods with those of similar enterprises in his field. Because data of this type had not been presented for jewelry stores within the past twenty years, it was felt that a retail jeweler would be keenly interested in a study which would allow him to compare his own operating results with those of other jewelry stores of comparable size. All information supplied was to be entirely confidential.

The plan was instituted in 1948 with the expectation that it would be continued each year. Questionnaires (one of which is reproduced on page 214) were to be mailed to cooperating

members of a State Retail Jewelers' Association about the 15th of January each year with a request that the statistics be in the hands of the research bureau by February 10 of the same year. The reason for the early date of returning the questionnaire was to make it possible to give a preliminary report on the results to the annual convention of the Jewelers' Association about February 20. The detailed report to the association members was to be issued in June of each year.

EXHIBIT 1

CONFIDENTIAL

CODE NO. _____

Survey of Retail Jewelers

For detailed instructions and meaning of terms see attached paper. If you have more than one store, please enter figures for each on a separate page.

Enter figures (unless otherwise indicated) for full year. If you operate on a fiscal year, rather than a calendar year ending December 31, please give the closing date of your fiscal year here: _____.

OPERATING RESULTS, 1947 and 1948:	1947	1948
1. Sales (including sales taxes)	\$ _____	\$ _____
2. State O. E. Tax	_____	_____
3. Federal Excise Taxes	_____	_____
4. Total Sales Taxes (items 2 plus 3) . . .	\$ _____	\$ _____
5. Sales, excluding sales taxes (item 1 minus 4)	_____	_____
6. Net cost of merchandise sold	_____	_____
7. Gross margin (item 5 minus 6)	\$ _____	\$ _____
8. Total expenses	_____	_____
9. Income or loss, before income taxes (7 minus 8)	\$ _____	\$ _____
 EXPENSE BREAKDOWN:	 1947	 1948
10. Salaries of owners or managers (see note below)	\$ _____	\$ _____
11. Wages and salaries, other	_____	_____
12. Advertising	_____	_____
13. Rent (if building owner, write "owned" AND fill in item 14.)	_____	_____
14. Building maintenance, depreciation, in- surance	_____	_____
15. Heat, light, water and power	_____	_____
16. Credit (bad debt) losses	_____	_____
17. Other expenses	_____	_____
18. Total expenses (item 8 in "Operating Results")	\$ _____	\$ _____

(Note on salaries: How many owners and/or managers receive salaries?)

_____ If any owners work in store, but draw no salary, how many?

INVENTORIES:

As of December 31, 1946 (or end of nearest fiscal year) \$ _____

As of December 31, 1947 " " " " " " \$ _____

As of December 31, 1948 " " " " " " \$ _____

REPAIR AND OPTICAL WORK:

What per cent of your total sales is repair work (including engraving)? _____%

What per cent of your total sales (item 1) is optical work? _____%

Are these amounts estimates? _____ (yes or no)

ADVERTISING:

Give percentage of your advertising expense for these media in 1948:

Is your breakdown of advertising expense estimated? _____ (yes or no)

Newspapers _____%

Radio _____%

Direct mail _____%

*Other advertising _____%

Total advertising expense 100%

CREDIT SALES: Give the per cent of your total 1948 sales made in the following ways. Is this breakdown of sales an estimate? _____ (yes or no)

Cash _____%

Charge accounts _____%

Installment plan _____%

Total Sales 100%

MERCHANDISE LINES: Please check merchandise lines listed below which you carried in 1948, and if possible, give the per cent of your merchandise sales which is in these lines. Add other lines you carry which are not listed.

Check here
if carried:

Precious stones and rings _____%

Other jewelry (including costume jewelry) _____%

Clocks and watches _____%

Silverware _____%

China and glassware _____%

Other goods (describe) _____%

_____%

_____%

_____%

* What other advertising media did you use? _____

THE PROBLEM

The tabular information needed for the project included:

- average operating statement for jewelry stores
- number of stores reporting by size of city and volume of sales
- average operating statement by volume of sales
- average operating statement for the 25 per cent most profitable stores reporting
- merchandise turnover by size of store and size of city
- inventory and cost of goods sold by sales volume and size of city
- sales percentages for optical work
- advertising media used by size of store and size of city
- credit sales by size of store and size of city
- percentage of sales that are cash, charge account, and installment
- rent expense by size of store and size of city
- owners' and managers' compensation as a percentage of sales
- number of employees by sales volume
- store hours by size of city

Manual tabulation was to be used. However, because of the time element involved, it was necessary to develop forms for tabulation that would permit accurate final results to be obtained as quickly as possible.

DATA AVAILABLE

- H. G. WALES and R. FERBER. *Marketing Research—Selected Literature*. Dubuque: Wm. C. Brown Co., 1952, Part V.
- K. PHELPS. "A Flexible Method of Hand Tabulation," *Journal of Marketing*, III (January, 1939), pp. 265-68.

ACTION NEEDED

1. What would seem to be the best form for expediting the tabulations? Would it be desirable to set up forms permitting the data to be tabulated as the returns come in? If yes, how?
2. Prepare directions for tabulating the data on these forms.
3. Devise a system of easily made checks to guarantee accuracy in the tabulations, including some means of ready reference back to the original returns.

CASE 4—SELECTING A METHOD OF TABULATION

BACKGROUND

In 1949, the representatives of several life insurance companies indicated an interest in having a study made on the extent to which life insurance is used to cover the financial losses that result from the death of key personnel in a business. For example, when a company executive dies, expense is incurred in replacing the man who has undoubtedly developed special skills in handling his work. These costs arise from promoting and training another man to take the place of the one who has died. Hence, life insurance has been used by some businesses to compensate them for losses arising from the death of key executives.

THE PROBLEM

A research organization was asked to investigate the extent to which business life insurance is used in practice. A plan was outlined for the work, questionnaires were prepared, interviews completed and the data were ready for editing and tabulation. The problem then arose of selecting a method of tabulation, a problem to which relatively little thought had been given in the earlier stages of the project.

THE QUESTIONNAIRE

A rather lengthy questionnaire was used in the study. It is reproduced in full below.

EXHIBIT 1

A CONFIDENTIAL QUESTIONNAIRE TO DETERMINE THE EXTENT OF THE USE OF LIFE INSURANCE BY BUSINESS IN SELECTED AREAS

A. Business data

1. Operating name of business
2. Location of principal office
3. Number of employees

4. Type of business (check one) ☐ Manufacturing ☐ Wholesaling
☐ Retailing ☐ Service
5. Form of business unit (check one) ☐ Sole proprietorship
☐ Partnership ☐ Corporation ☐ Closed corporation
6. Description of business
7. Volume of business (Gross sales)

B. For sole proprietorships only (Business interest liquidation)

1. Have arrangements been made for the continuation of the business after the owner's death? ☐ Yes ☐ No
2. (If the answer to question 1 is Yes) What arrangements have been made?
 - ☐ Owner's wife will operate the business
 - ☐ Owner's son will operate the business
 - ☐ Other relative of the owner will operate the business
 - ☐ Owner has a definite agreement with a particular person or group of persons to purchase the business upon death of the owner at a fair and equitable price
 - ☐ Other arrangements
3. If there is a definite agreement with a particular person or group of persons to buy the business at owner's death, is it reinforced by the use of life insurance on the owner's life paid for by this person or group of persons to finance the purchase of the deceased interest?
 - ☐ Yes ☐ No
 - a) Who drew up the agreement? ☐ Attorney ☐ Life Insurance Agent
 - b) How much life insurance is in force for this purpose?
 - c) What plan is used?
 - d) How was the amount arrived at?
 - ☐ Value of the business agreed upon in the buy and sell agreement
 - ☐ Estimated value of business
 - ☐ A percentage of the value of the business to be used as down payment
 - ☐ Arbitrary amount
 - ☐ Other
 - e) Do you feel that the plan now used adequately meets the needs?
 - ☐ Yes ☐ No ☐ Uncertain
 - f) How did you first become interested in the plan you now use?
 - ☐ Approached by Life Insurance Agent
 - ☐ Approached by Life Insurance Agent and referred to Home Office specialist
 - ☐ Formulated the plan without motivation outside of the business
 - ☐ Received suggestion from accountant
 - ☐ Received suggestion from attorney
 - ☐ Received suggestion from general insurance salesman
 - ☐ Other
4. If there is no plan financed by life insurance involving the sale of the business in case of the death of the owner, please complete the following:

- a) Have you ever had explained the use of life insurance plans to liquidate the business interest in case of the owner's death? () Yes () No
- b) (If the above answer is Yes) What are the reasons for not entering into such a plan?
- c) (If the answer to part (a) is No) Do you think there is a place for life insurance in your business? () Yes () No () Undecided

C. For partnerships only (Business interest liquidation)

1. Have arrangements been made for the continuation of the business after the death of one of the partners? () Yes () No
2. (If the answer is Yes) What arrangements have been made?
- () Take the heirs in as partners
 - () Take the buyers of the heirs' interest as partners
 - () Sell out to the heirs and have them continue the business
 - () Purchase the interest of the heirs
 - () Surviving partners will inherit the business
3. If the plan is to have the surviving partner purchase the interest of the heirs in case of death of one of the partners, is there in force a "buy and sell agreement" to be financed by insurance on the lives of each partner? () Yes () No
- a) Who drew up the agreement: () Attorney () Life Insurance Agent
- b) How much life insurance is in force for this purpose?
- c) What plan is used? Type of insurance?
Who pays premium? Beneficiary?
- d) How was the amount arrived at?
- () Value of business interest as agreed upon in the buy and sell agreement
 - () Estimated value of business interest
 - () A percentage of the value of the partnership interest to be used as down payment
 - () Arbitrary
 - () Other
- e) Do you feel that the plan now used adequately meets the need? () Yes () No () Undecided
- f) How did you first become interested in the plan?
- () Approached by Life Insurance Agent
 - () Approached by Life Insurance Agent and referred to Home Office specialist
 - () Formulated the plan without motivation outside of the business
 - () Received suggestion from accountant
 - () Received suggestion from attorney
 - () Received suggestion from general insurance salesman
 - () Other
4. If there is no plan financed by life insurance involving the sale of the partnership interest in case of the death of one of the partners, please complete the following:

- a) Have you ever had explained the use of a life insurance plan to liquidate the interest of a partner in case of death? () Yes () No
- b) (If the answer is Yes) What are the reasons for not entering into such a plan?
- c) (If the answer to part (a) is No) Do you think there is a place for life insurance in your business? () Yes () No () Undecided

D. For closed corporations only (Business interest liquidation)

1. Have arrangements been made for the continuation of the business after the death of one of the stockholders? () Yes () No
 - a) Who drew up the agreement? () Attorney () Insurance Agent
2. (If the answer is Yes) What arrangements have been made?
 - () Surviving active stockholders will inherit the deceased's interest
 - () Accept heirs of the deceased as active stockholders
 - () Allow the heirs to draw dividends but to take no active part in the management
 - () Allow the heirs to sell their interest to outsiders
 - () An agreement whereby the heirs sell their interest to the surviving stockholders
 - () Other
3. If the plan is to have the surviving stockholders purchase the interest of the heirs in case of death of one of the stockholders, is there in force a "buy and sell agreement" to be financed by insurance on the lives of each stockholder? () Yes () No
 - a) How much life insurance is in force for this purpose?
 - b) What plan is used? Type of insurance?
 Who pays premiums? Beneficiary?
 - c) How was the amount arrived at?
 - () Value of business interest as agreed upon in the buy and sell agreement
 - () Estimated value of business interest
 - () A percentage of the value of the corporation interest to be used as down payment
 - () Arbitrary
 - () Other
 - d) Do you feel that the plan now used adequately meets the needs? () Yes () No () Undecided
 - e) How did you first become interested in the plan?
 - () Approached by Life Insurance Agent
 - () Approached by Life Insurance Agent and referred to Home Office specialist
 - () Formulated the plan without motivation outside of the business
 - () Received suggestion from accountant
 - () Received suggestion from attorney
 - () Received suggestion from general insurance salesman
 - () Other
4. If there is no plan financed by life insurance involving the sale of the

stockholder interest in case of the death of one of the stockholders, please complete the following:

- a) Have you ever had explained the use of a life insurance plan to liquidate the interest of a stockholder in case of death? () Yes () No
- b) (If the answer is Yes) What are the reasons for not entering into such a plan?
- c) (If the answer to part (a) is No) Do you think there is a place for life insurance in your business? () Yes () No () Undecided

E. For all business units

1. Does the business carry insurance on the lives of the officers of the company? () Yes () No
 - a) Which ones: () President () Vice President () Secretary () Treasurer () General Manager () Other
2. Does the business carry insurance on the lives of any of the employees who would be difficult to replace except at a financial loss? () Yes () No
 - a) Type of employee
3. (If the answer to questions 1 or 2 is Yes)
 - a) What were the principal motives leading to the purchase of this insurance?
 - () Tax advantages
 - () Protection needed by the business
 - () Retirement plan for officers
 - () Other
 - b) How many policies do you have and what are their amounts?

Policies	Amounts	Plan?
----------	---------	-------
 - c) How did you arrive at these amounts?
 - () A percentage of salary paid
 - () An estimate of the real contribution to the profits of the business by the insured employee
 - () An arbitrary amount
 - () Other
 - d) Do you feel that your plan adequately meets your needs? () Yes () No. () Doubt
 - e) How did you first become interested in the plan which you now have in force?
 - () Approached by Life Insurance Agent
 - () Approached by Life Insurance Agent and referred to Home Office specialist
 - () Formulated the plan without motivation outside of the business
 - () Received suggestion from accountant
 - () Received suggestion from attorney
 - () Received suggestion from general insurance salesman
 - () Other
4. (If the answer to questions 1 and 2 are both No)
 - a) Have you ever been offered an explanation of the use of life insurance to protect business values? () Yes () No

- b) (If the answer to the above question is Yes) What is your reason for not covering the lives of the key men?
- c) (If the answer to question (a) is No) Do you think there is a place for life insurance in your business? () Yes () No () Undecided

F. Comments

OTHER CONSIDERATIONS

About five hundred and fifty interviews were obtained with this questionnaire. The answers to some of the questions were almost entirely of a free response type. Most of the responses, however, were definite enough to permit classification by distinct groups.

Only two persons were available for three months' service to do the tabulating work. Both were relatively inexperienced at manual tabulation work but in spite of this, the director of the research project wanted to keep these people busy, so he suggested that manual tabulation be used. It would cost approximately \$425.00 per month to keep these two workers on the payroll for parttime work on this and other projects.

A considerable number of cross-classifications would have to be derived from the data obtained in answer to each question. The task of tabulation also would be made more arduous by the substantial number of subclassifications that would be necessary in the initial tabulation work.

The schedule called for the tabulation work to begin in September and be completed by December 1. At each stage of the work, careful analysis of the tabular information was to be made in order to ascertain if significant results were being brought to light, and dummy tables were prepared to guide the persons who were immediately responsible for the tabulation work.

ACTION NEEDED

1. A selection of some method of tabulating the data gathered with this questionnaire had to be made. What should that method be—mechanical, manual, or semimechanical (Key-sort, Findex, etc.)? Why?

2. What is the nature of the editing work needed to prepare this questionnaire for tabulation by the chosen method?
3. Prepare a set of instructions for tabulating the data from this questionnaire.

CASE 5—CROSS-CLASSIFICATION TABULATIONS

BACKGROUND

The Langdale Department Store had completed gathering data on a customer survey directed at discovering why so many credit accounts of their customers were small. (See Part III, Case 5, for details on hypotheses and types of data gathered.)

Personal interviews made with customers living within the city had produced slightly under five hundred usable returns. A mail questionnaire to customers outside the city had produced slightly over three hundred usable returns. Those returns had been edited, coded, and the data entered by the store through manual tabulation on so-called tally or working sheets (illustrated on pp. 226-28). In addition, data from store records, principally dollar expenditures, made against each credit account during the past year, had been recorded.

THE PROBLEM

What summary tables should be drawn from the data compiled on the tally sheets? Numerous factors were involved in resolving this question.

The problem, of course, had been anticipated. During the planning stage, attempts had been made to visualize the sort of tables that would be needed to test the formulated hypotheses. Descriptions of about thirty tables had been prepared before the final questionnaire form was drawn. For a number of the more important tables, statistical findings had been anticipated and tentative figures entered in the tables. This procedure provided a test of the size of minor breakdowns to be expected and of the usefulness of the data-gathering forms for producing the needed data.

Plans had called for a sample of a thousand cases. Because returns were only eight hundred, some loss in minor universes size and in cross-classification opportunities resulted.

Consideration of the kind of summary tables desired also had entered into the design of the tally sheets. The decision had been made that the characteristics appearing most frequently in the cross-classifications should be customer income and size of customer accounts. A procedure had been adopted, therefore, in advance of tabulation to simplify the construction of summary tables, including such cross-classifications. This was to be accomplished by sorting questionnaires into groups of Upper, Middle, and Lower incomes and into subgroups of Large, Medium, and Small accounts, and then by recording the responses of each subgroup on a separate tally sheet. (How this simplified the work of making summary tables will be clearer after inspection of the illustrations given later.)

The classification of data as recorded on questionnaires or on the tally sheets also was a factor. The classifications did not determine what summary tables could be made, but they did restrict the breakdowns of data which could be made without direct reference back to the original questionnaires. No matter what preplanning of tables had been done or the means to be employed for drawing off summary tables, later analysis could, of course, be expected to reveal the desirability of tables not previously anticipated.

Another factor influencing decisions was the desirability of simple, one-dimensional tables, or straight runs, as against two-dimensional (cross-classification) tables, which are almost essential for correlation analysis, and as against more complex tables, those concerned with more than two dimensions.

A last factor involved in determining what summary tables to construct was the relative preferences for "storehouse" tables (convenient summaries of many data but not necessarily well adapted to analysis), for working tables (useful relationships), and for presentation tables (the sort that might appear in a final report presenting the results of the study).

DATA AVAILABLE

The basic plan of the tally sheet was to reproduce the questionnaire vertically down the left side of a large sheet of ruled accounting paper, making provision under each question for all classifications of data desired. Each questionnaire, after editing and coding, was then entered on this tally sheet on a separate vertical column. This method is illustrated on pp. 226-28, using for this purpose and this entire case the questionnaire as proposed after the pretest described in Part III, Case 5, pp. 91-100. The questionnaire used is shown on pp. 98-100.

The tally sheet illustrated on pp. 226-28 was a part of the master counter sheet covering all the respondents (60) whose family income was in the "Upper" group and whose accounts at the Langdale Store the previous year had been "Large." Similar sheets assembled such other groups as Upper Income, Medium Accounts, and Lower Income, Small Accounts in a similar fashion. Each would have the same vertical columns on the left. Each questionnaire had a code, or sample, number, as shown by the column headings on pp. 226-28, which was keyed to a list containing respondent names and addresses, thereby permitting checks to be made on the tabulations and reference back to the original data, should this be necessary.

A question such as No. 4, it will be noted, provides no tabulating problem. The answers Yes, No, and D.K. (D.K. standing for Don't Know or Unknown) cover all possible answers to the question asked. In contrast, a question such as No. 1 can be troublesome. Answers might be classified for each year separately, although for most purposes the detail would be meaningless as well as extremely complex and the number of cases in each class would be ridiculously small. On the other hand, all answers might be put into only three categories, such as 5 years or less, more than 5 years, and inevitably, D.K.

If the researcher employed broad breakdowns, as illustrated above, and in analyzing the data discovered a high correlation between size of account and length of residence, he probably would want further breakdowns, assuming the group was large

EXHIBIT 1

TALLY SHEET ILLUSTRATION

Income: Upper
Acc't Size: Large

Sample No.	31	123	389	64	810	453	65	310	536	44	78	593
Q. 1 How long lived here? Less than 2 yrs. 2 to 3 yrs. 4 to 5 yrs. 6 to 7 yrs. 8 or more yrs. Don't know Life	✓		✓	✓			✓	✓	✓	✓		✓
Q. 2 Who does most shopping? Wife Daughter Son Husband Miss Other D.K. Does All Does Most Shares Equally D.K.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

TALLY SHEET ILLUSTRATION—(Continued)

Sample No.	31	123	389	64	810	453	65	310	536	44	78	593
Q. 3 Other family buyers?												
Wife		✓				✓	✓		✓			
Daughter												
Son					✓							
Husband	✓		✓	✓				✓		✓	✓	✓
Other												
None												
D.K.												
Q. 4 Telephone buying?												
Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No												
D.K.												
<hr/>												
Age 24 or less												
25-34												
35-44												
45-64	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
over 64												
D.K.												
No. members in family under 19 years of age												
0												
1												
2			✓	✓	✓	✓	✓		✓	✓	✓	
3												
4 or more	✓	✓						✓				✓
D.K.												

TALLY SHEET ILLUSTRATION—(Continued)

Sample No.	31	123	389	64	810	453	65	310	536	44	78	593
19 or older												
0		✓		✓		✓	✓	✓	✓	✓	✓	✓
1 member			✓									
2 members				✓		✓	✓				✓	
3 members												
4 or more			✓									
D.K.												
Total members												
1 member				✓		✓	✓					
2 members												
3 members				✓								
4 members			✓									
5 members												
6 or more		✓										
D.K.	✓											✓
Income												
Group A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Group B												
Group C												
Group D												
Group E												
Group F												
D.K.												
Size of Account												
Large	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Medium												
Small												
	160	17	92	411	540	124	40	34	45	60	190	940

enough to permit such an operation. To obtain these breakdowns, however, would require a tabulation separate from the original questionnaires. Should the real answer lie in the realm of fractions of a year, then it would be too late; the questionnaire makes no provision for such breakdowns. (It is the work of the preliminary investigations, planning, and pretesting to avoid such errors.) In general, it is best, in tabulating, to provide for more numerous breakdowns than seem necessary at first; for it is easy to merge classifications, but costly to split them after original tabulations are completed.

From the classifications shown above, the types of summary tables shown on pp. 229-30 might be constructed.

Summary Table A is of the one-dimension, or straight-run, type. Its limited usefulness for analysis is apparent; and it will be noted that such one-dimensional data constantly reappear in the "Total" columns and rows of all summary tables. For these reasons, such summary tables often are omitted in analytical work, although the facts may be important in presenting results and these tables may appear in the final published report.

Summary Table B is the correlation, or two-dimension, type

EXHIBIT 2. ILLUSTRATIONS OF SUMMARY TABLES

SUMMARY TABLE A—SIZE OF CUSTOMER ACCOUNTS

Size	Number of Accounts
Large	200
Medium	264
Small	336
Total	800

SUMMARY TABLE B—SIZE OF CUSTOMER ACCOUNTS, BY INCOME GROUPS

Size of accounts	Income Groups				Total
	Upper	Middle	Lower	Don't Know	
Large	84	89	23	4	200
Medium	95	143	16	10	264
Small	111	143	46	36	336
Total	290	375	85	50	800

SUMMARY TABLE C—SIZE OF CUSTOMER ACCOUNTS, BY INCOME GROUPS AND AGE GROUPS

Income and Age Groups	Size of Account			
	Large	Medium	Small	Total
Upper Income				
44 or younger	—	—	—	—
45 or older	—	—	—	—
Age unknown	—	—	—	—
All	84	95	111	290
Middle Income				
44 or younger	—	—	—	—
45 or older	—	—	—	—
Age unknown	—	—	—	—
All	89	143	143	375
Lower Income				
44 or younger	—	—	—	—
45 or older	—	—	—	—
Age unknown	—	—	—	—
All	23	16	46	85
Income Unknown				
44 or younger	—	—	—	—
45 or older	—	—	—	—
Age unknown	—	—	—	—
All	4	10	36	50
All Incomes				
44 or younger	—	—	—	—
45 or older	—	—	—	—
Age unknown	—	—	—	—
Grand Total	200	264	336	800

of table, being extremely useful in revealing relationships and the most common of all types of analytical tables. The table shown could have been run, and usually would be run, to show seven income breakdowns. To simplify the illustration, Groups A and B were merged into Upper Income, Groups C and D into Middle Income, and Groups E and F into Lower Income.

Summary Table C exemplifies the more complex, three-dimensional table. The complexity of multidimensional tables would be even clearer if all seven possible income breakdowns plus the six possible age groups had been used in the illustration. Even in the more simple form shown, it will be noted that the

analyst would have the chore of splitting up sixteen totals into minor categories. For much larger samples, zeroes or single-digit numbers tend to appear for some breakdowns in such tables.

The complexity of three-dimensional tables, however, is mostly a matter of complexity of analysis. A moment's reflection will reveal that they are not much more complex or time-consuming to construct than are many two-dimension tables. They also have a marked advantage as a storehouse for a great deal of data (note how Table B could be constructed quickly from the total columns of Table C) and as clues to the inter-relationship of market factors in a world that after all is not two-sided.

ACTION NEEDED

1. How many summary tables should be constructed from the data gathered with this questionnaire and of what types?
2. Design all column headings and line designations for the most important tables, including at least two complex-type tables.

Part VII

ANALYSIS AND INTERPRETATION OF DATA

The questions that generally arise in the course of analyzing a set of data may be grouped under the following headings:

- The reliability of the data
- Formulating and testing working hypotheses
- Interpretation of results
- Verification of findings
- Translation of findings into recommendations for action

Some pertinent remarks on each of these questions are offered on the following pages.

RELIABILITY OF DATA

An evaluation of the reliability of a set of data not only aids the reader or client in arriving at a more complete judgment of the validity of the findings, but also serves as a determining factor in the selection of analytical techniques, and may even alter the findings themselves. Thus, if the data appear to be subject to wide margins of error, it is generally foolish to apply highly refined and time-consuming analytical techniques to the data or to dwell on the apparent implication of relatively minor differences. All one can do in such a case is to concentrate on over-all trends revealed by the data and to pass over the fine points.

A set of findings may be altered by an evaluation of data reliability if the data are found to possess some bias that can be corrected. In such a case the data should be adjusted before the substantive analysis is begun,¹ though such corrections

¹ For an example of how this was done, see R. Ferber and H. G. Wales, "Detection and Correction of Interviewer Bias," *Public Opinion Quarterly*, XVI (Spring, 1952), pp. 107-27.

should be made with extreme caution because they may at times alter substantially the nature of the final results.

Now, what does an evaluation of data reliability include? In the case of data taken from other sources, there is not much to be done other than, perhaps, to transcribe from that source whatever information on the question might be deemed pertinent. If the data are compiled by the researcher himself but are not based on a sample survey, such as company sales estimates by territories, the study should include an investigation of possible sources of error or bias in the data ranging from the origin of the data to the last step involved in obtaining the estimates. Thus, in judging the reliability of company territorial estimates, one might look for possible errors or bias in the manner in which the salesmen file their reports, how and when the reports are compiled in the district offices, possible discrepancies between the date a sale is made and the date it is reported, and others.

If the data are obtained from a survey designed especially to collect these data, a thorough investigation of their reliability must include the two main aspects of the subject, sampling error and bias, and, in addition, an attempt may be made to validate the data.

Pros and Cons of Validation

To validate sample data means essentially to locate information from other sources on the same characteristics covered by the sample, which is then used as a yardstick against which to gauge the accuracy of the sample data. If in a consumer preference study in City Z, for example, classifying information were compiled on marital status, occupation, age, and sex, data on the same characteristics might be obtained for that city from recent Census material or from other sources. If the sample data exhibit much the same distributions for these characteristics as the Census or other data—such as falling well within the range of sampling error—the sample is said to be “validated.” It is perhaps needless to note that a validation analysis has no meaning if carried out on characteristics that were used

as sample controls or on characteristics closely related to those used as sample controls.

From an operational viewpoint the applicability of validating procedures is restricted by the difficulty of finding accurate data regarding the particular population under study. Census-of-population data are compiled every ten years only, and for small areas may be outdated by the time of release, three or four years after the Census date. Other data relating to the same population studied, the same time, the same characteristics, and the same definitions are also generally difficult to find. Hence, a validation analysis must be interpreted with considerable caution, as it is often difficult to ascertain whether differences uncovered by the validation procedure are due to a possibly biased sample or to lack of comparability between the various sets of data.

Despite these limitations, validation can prove very useful in pointing up weak spots in a sample survey, though validation cannot serve as a substitute for measurement of sampling error or evaluation of bias. At the least, it will indicate the direction of the bias; it provides no measure of sampling error, and little, if any, evidence as to the nature of the bias. In short, validation to a researcher is in some ways analogous to the function of a thermometer for a doctor: it acts as a warning signal when something is out of order, but like a thermometer it is not a foolproof indicator.

Formulating and Testing Working Hypotheses

General hypotheses as to the nature of the results that might be obtained from the study have undoubtedly been formulated at the preliminary investigation and planning stages. At this stage, it remains to convert these hypotheses into explicit forms that can be tested directly on the data. Where statistical tests can be applied, this means setting up the so-called null hypothesis of statistics—to the effect that the observed differences do not really exist in the population—which is then tested with the aid of appropriate significance tests. At the same time it is a good idea to review all the data that have been collected with an eye toward detecting relationships that might point to addi-

tional hypotheses or to revising the hypotheses originally formulated. It is a rare study indeed where all pertinent hypotheses have been postulated before the data are collected.²

Interpretation of Results

A number of pitfalls face the researcher in interpreting the results of an analysis. Probably the biggest one is the danger of unwarranted generalizations. The urge to generalize is understandably great, for the value of a set of findings often increases with its scope. Nevertheless, the possibility of generalizing is invariably restricted by the fact that a study is made at a particular time, at a particular place, and in a certain way. Broadening the scope of the results therefore necessitates careful prior consideration of how they might be affected by the change of time and place, not to mention the effect of different methods of obtaining the same data. Even different ways of asking for the same information can completely alter the picture.³

An additional problem involved in generalizing is the danger of going beyond the range of the observations. Thus, a study may find that savings are linearly related to income for families earning between \$2,600 and \$6,400 per year. To generalize solely from this finding that savings are linearly related to income for all families in that area would not be justified, since these data provide no basis for believing that the same relationship holds for those earning below \$2,600 or above \$6,400 per year. This is one of the basic problems involved in forecasting from past relationships, for when one has to consider conditions outside the range of the observations, as is often the case, there can be no assurance that the same relationships will continue.

Another pitfall is the tendency to identify correlation with causation. If a close association exists between the stork popu-

² In this connection, rearranging of the data—by doing percentaging in various ways, regrouping classifications, etc.—often brings to light hitherto unsuspected relationships. Numerous aids for carrying out such analyses are provided in the Zeisel reference in the bibliography at the end of this Part, a necessary reading for beginning marketing researchers.

³ For an example, see S. Payne, *The Art of Asking Questions* (Princeton, N. J.: Princeton University Press, 1951), chap. 7.

lation and the number of births in the United States, nobody is likely to conclude that the former influences the birth rate. But if the relationship is a more plausible one—such as, say, that preference for prefabricated houses rises as income level falls—the urge to label one factor as a cause of the other is often overwhelming. It can only be repeated here that lack of correlation invariably proves absence of causation, but the presence of correlation by itself does not prove causation. More positive evidence is needed to establish causation, and it is here that *a priori* reasoning plays an important role.

The confirmation or rejection of hypotheses on the basis of statistical tests presents a similar pitfall. If the outcome of the tests contradicts the hypothesis, it can be pretty safely rejected. But if the outcome is in agreement with the hypothesis, the validity of the hypothesis is not necessarily established, for the same reason that correlation does not always signify causation: the coincidence may be largely fortuitous. It is for this reason that most analysts will not say in such a case that “the tests confirm the hypothesis,” but rather they will take a more cautious attitude and say either that “the tests do not disprove the hypothesis” or “the results of the tests are in accord with the hypothesis.”

Verification of Findings

This step is in many ways analogous to validating survey data. The question that one seeks to answer here is: how do the findings obtained in the present study compare with those obtained in similar past studies? If they agree with past studies, so much additional support is provided for the validity of this study. If they do not agree, an attempt should be made to reconcile the differences. In either case, where similar studies do exist (a fact that should already have been ascertained at the preliminary investigation stage), a section on verification should be included in the analysis. Such a section may provide strong substantiation for the findings, and if it does not, this fact should in all fairness be presented anyway. It is much better for the researcher who conducted the study to point out possi-

ble inconsistencies in the results than to have someone else discover them at a later time.

Translation of Findings into Policy Recommendations

Many studies, especially those for business concerns, call for a section on the practical implications of the findings, on what sort of action might be indicated by the study. For the researcher simply to translate his findings directly into the actions they might imply cannot only prove dangerous, but may be fatal from the point of view of ensuring favorable reception of the study. For in translating the findings into recommendations for action, the researcher must take account (and show that he is doing so) of established practices in the company as well as of the feasibility of the actions indicated by the findings.

A study may point to the desirability of altering and combining a firm's sales routes, but existing personnel relationships and the desire to maintain the morale of its staff may not render it practicable to make such changes except gradually, as salesmen leave the company or work their way up. Another study may point to an opportunity for increased profits by enlarging the scope of operations, but the company may simply not be in a position to finance such an endeavor at the time.

A frequent procedure in cases where a clear conflict exists between the nature of the findings and their practicability is to present, first, the implications of the findings in the absence of practical difficulties (sometimes placed under the heading of "long-range objectives"), second, a demonstration of the effect of practical difficulties as the findings are converted to policy recommendations, and third, the policy recommendations themselves. Whatever the method used, a tempering of the findings in the light of actual conditions is essential for presenting policy recommendations.

If the findings are not conclusive enough to warrant submission of specific policy recommendations, an additional section may be appended outlining what further work is required before policy recommendations could justifiably be made. Many research reports include such a section more or less as a matter

of course to point out for future reference the areas in which further research would seem most fruitful.

A useful checklist of the main practical considerations that should be taken into account in preparing policy recommendations is provided by Brown.⁴ It is reproduced below:

1. The condition of the company and the market should be taken into account.
2. The probable opposition of executives should be analyzed.
3. Company officials should be given an active part in the interpretation.
4. The required course of action should be clearly stated.⁵
5. A series of progressive changes should be recommended.
6. Recommendations should be interpreted into concrete gains from following the proposed course of action.

The Cases in This Part

The cases in this part concentrate largely on the interpretation of data and partly on the translation of the findings into policy recommendations. The only exception is the first case, which raises the problem of validating a consumer survey in the common situation where few data are available for the purpose.

The other five cases are concerned with the interpretation of different types of data. Cases 2, 3, and 4 are problems dealing solely with interpretation, all of them relating to sample data. In each case, the researcher is faced with a mass of data and the problem is to derive some meaning from them. Case 2 in particular, on the extent of use of business life insurance, presents a hodgepodge of information, which may or may not be relevant to the subject, and the researcher is asked to bring some order out of it.

In Case 3, on listenership to radio programs, the data have been organized, but the classifications and breakdowns presented are so numerous that the problem of interpretation is rather complex and presents the danger of unwarranted generalizations.

⁴ L. O. Brown, *Marketing and Distribution Research* (New York: The Ronald Press Co., 1949), pp. 566-71. This list is elaborated upon in these pages.

⁵ And even more clearly justified!

Case 4, on the effectiveness of advertising, poses a problem familiar to all advertisers and also raises the question of possible remedial action.

The data in Case 5 are secondary source material and present an intermediary type of situation in which recommendations for future research are needed on the basis of the material compiled to that time with regard to when retail stores should be open.

The situation in Case 6 is one in which research concerning the characteristics of a men's apparel store has been completed and the problem is to interpret the results and present policy recommendations.

AMERICAN MARKETING ASSOCIATION, *The Technique of Marketing Research*. New York: McGraw-Hill Book Co., Inc., 1937. Chapter 16 presents useful pointers on interpreting data, and Chapter 19 reviews briefly various statistical methods used in analyzing marketing data.

BLANKENSHIP, A. B. (ed.). *How to Conduct Consumer and Opinion Research*. New York: Harper & Bros., 1946. Chapters 4, 5, 8, and 9 in particular contain illustrations of analysis of marketing data.

BRADFORD, E. S. *Marketing Research*. New York: McGraw-Hill Book Co., Inc., 1951. A brief section on analysis and interpretation of data is included on pp. 192-97.

BROWN, L. O. *Marketing and Distribution Research*. New York: The Ronald Press Co., 1949. The last part of Chapter 23 and all of Chapter 24 discuss the problems involved in drawing inferences from statistical data and contain much useful information on interpreting research findings into business policy.

HEIDINGSFIELD, M. S., and A. B. BLANKENSHIP. *Market and Marketing Analysis*. New York: Henry Holt & Co., 1947. Of special interest to readers of chapter 11 is a discussion concerning the role of the researcher in making recommendations. Some writers advocate that research workers should work only with inferences and conclusions gathered from data and avoid making too many recommendations, leaving the recommendations to the management to make. Others believe that making recommendations is part of the researcher's responsibility.

HOBART, D. M. (ed.). *Marketing Research Practice*. New York: The Ronald Press Co., 1950. The practical examples upon which this book is built contain many interesting and useful illustrations of analyzing and interpreting marketing data.

LORIE, J. H., and H. V. ROBERTS. *Basic Methods of Marketing Research*. New York: McGraw-Hill Book Co., Inc., 1951. In the treatment of scientific method in marketing research (Chapter 4) the authors give a brief treatment of interpretation problems.

- LUCK, D. J., and H. G. WALES. *Marketing Research*. New York: Prentice-Hall, Inc., 1952. An extensive discussion of analysis of data and table arrangements is contained in Chapter 13. Interpretation of data is treated in some detail in Chapter 14 with examples in Chapters 17-19.
- ZEISEL, H. *Say It with Figures*. New York: Harper & Bros., 1948. This book contains much material throughout on analyzing and interpreting numerical data and is well worth reading for this reason alone.

Part VII Cases

CASE I—VALIDATION OF A CONSUMER SURVEY

BACKGROUND

The sample design described in Case 3 of Part IV, pp. 130-36, was used for a personal interview survey of families in Philadelphia in 1947 concerning their purchase and use of a class of food products. Sampling results were as follows:

1. Noncooperation of respondents plus the discarding by the editor of several unreliable questionnaire returns reduced the number of usable interviews to 479, out of the 533 planned, and the number of areas in which interviews were made from 152 to 144.

2. Families not interviewed fell almost proportionately among the rental groups. To adjust the quartiles no more than three families had to be shifted from the edge of one group to the edge of another, although distortion in some subrental groups was larger. (Interviewers did not ask respondents for either income or rentals, nor did they make estimates; respondents were classified on the basis of the rental groups of the blocks in which they lived; see page 132).

3. The subsample of apartment dwellers comprised 52 interviews, or 10.9 per cent of the total. (The 1940 Housing Census for Philadelphia showed 10.1 per cent of families living in apartment houses.)

4. The 70 planned interviews among nonwhites were completed. Interviewers also found that three blocks identified as predominantly, or wholly, white in 1940 were solidly nonwhite in 1947. The final results, therefore, included 87 usable interviews with nonwhite families, or 18.1 per cent of the total. (The 1940 Census showed 12.9 per cent of nonwhites in the city.)

Because of difficulties in sample construction and because of these results, serious doubts were raised as to the validity of the

sample, particularly as to whether or not it constituted a representative sample of Philadelphia families.

METHODS OF VALIDATION

The principal methods of validation used were to check the sample data against data that were available for the population for characteristics not employed as sample controls.

Refrigeration ownership, for example, had not been used in any way as a sample control or stratification. Possession of mechanical refrigeration was thought to be importantly related to the purchase and use of the food products being studied. Were the families interviewed representative of Philadelphia families with regard to refrigeration ownership?

Of the families interviewed, 326 reported having electric or gas refrigerators, 132 had iceboxes, and 21 had none, other types, or gave no answer. The 1940 Census estimated that 57 per cent of Philadelphia families owned mechanical refrigerators. The *Edison Electric Institute Bulletin* of August, 1945, summarizing a national study made earlier in the year, showed a gain of 6 million units over the 15,364,000 mechanical refrigeration units reported owned in 1940 by the Census. Thus, mechanical refrigeration among all U. S. families had increased from 43 per cent in 1940 to more than 50 per cent in 1945. The 1945 figures given for refrigeration equipment in occupied urban dwellings were: mechanical refrigerators, 68.3 per cent; ice boxes, 25.8 per cent; other or none, 5.9 per cent.

Family size also had been uncontrolled. The family size distribution of the total sample as compared with the corresponding Census data for 1940 for Philadelphia was as follows:

EXHIBIT 1
FAMILY SIZE DISTRIBUTION, ALL FAMILIES

Source	Members in family—All families						
	1	2	3	4	5 or more	N.A.	Total
Census—1940	7.8	23.3	22.1	18.9	27.9	—	100%
Sample—1947	5.2	24.8	24.2	21.1	24.4	0.3	100%

Family-size distributions for nonwhite families were:

EXHIBIT 2

FAMILY SIZE DISTRIBUTION, NONWHITES

Source	Members in family—Nonwhite families						
	1	2	3	4	5 or more	N.A.	Total
Census—1940	11	25	19	15	30	—	100%
Sample—1947	8	25	13	18	36	—	100%

Users of the food product being studied had been reported by other researchers as comprising: 34 per cent of San Francisco families (Call-Bulletin Study) in 1941; 23 per cent of all urban families (General Foods) in 1942; and 55.9 per cent of Philadelphia families (*Philadelphia Evening Bulletin*) in 1946. The latter figure was produced as part of a survey of many items. The definition of the class of food product being compared was unavailable, except that the earlier study had included all varieties of this class of product whereas the latter had not. The present study revealed that 64 per cent of families used the product some time within the past year. Excluding families whose last purchase had been more than one month previous to the interview, user families were 56.1 per cent of the total. In addition to variance in these percentages because of differences in definition, seasonal difference was not checked, the time of interviewing for the 1946 survey not being given.

The *Bulletin* survey gave the following use-of-product percentages by rental groups (renters and owners had "reported" rental values to interviewers):

<i>Rentals</i>	<i>Per cent of users</i>
Over \$50	72.8
\$40 to \$49.99	62.3
\$30 to \$39.99	53.7
Under \$30	40.4

The present study, using 1940 rental values, showed:

<i>Rentals</i>	<i>Per cent of users</i>
\$37 and over	85 (1st quartile)
\$28.50 to \$36.99	73 (2nd quartile)
\$23.01 to \$28.49	58 (3rd quartile)
\$23 and under	38 (4th quartile)

ACTION NEEDED

1. What light do these data throw on the validity of the survey?
2. Someone suggested that the reliability of the data might be increased by weighting the results. Evaluate the desirability of this procedure in the present case.

CASE 2—EXTENT OF USE OF BUSINESS LIFE INSURANCE

BACKGROUND

The investigation, which was to determine the extent to which business life insurance is used by various types of businesses, (Part VI, Case 4) had reached the analysis stage. A research worker had been assigned the job of working out an interpretation and analysis of a series of tables that had been prepared by one of the statistical clerks who was working on the study.

Two samples had been selected—one of business firms and the other of life insurance salesmen. The first sample was selected to ascertain the extent to which various types of businesses carried business life insurance. The sample of life insurance agents was selected to determine the types of policies sold by agents for business life insurance purposes and other purposes. Exhibits 1 through 8 are based on data collected from business firms, and Exhibits 9 and 10 are based on data gathered from agents.

The immediate reaction of the worker on studying the tables was, "How do I organize the tables so that an understandable interpretation can be made?" After making several futile at-

tempts at the assignment, the worker finally got in touch with one of the directors of the project and asked for help.

EXHIBIT 1

NUMBER OF FIRMS INTERVIEWED, BY FORM OF BUSINESS

Form of business	Number of firms
Corporations	323
Partnerships	125
Sole proprietorships	132
Total	580

EXHIBIT 2

NUMBER OF FIRMS INTERVIEWED, BY FORM OF BUSINESS AND CITY SIZE

Form of business	Number of firms	Percentage of group	Percentage of type in entire sample
A. In two large cities			
Corporations	213	61.2	65.9
Partnerships	70	20.1	56.0
Sole Proprietorships	65	18.7	49.2
Total, all types	348	100.0	60.0
B. In five small cities			
Corporations	110	47.4	34.1
Partnerships	55	23.7	44.0
Sole Proprietorships	67	28.9	50.8
Total, all types	232	100.0	40.0

EXHIBIT 3

NUMBER OF FIRMS INTERVIEWED, BY TYPE OF BUSINESS ACTIVITY

Type of business activity	Number of firms	Percentage of total
Manufacturing	159	27.4
Manufacturing and merchandising	55	9.5
Wholesaling	64	11.0
Retailing	241	41.6
Wholesaling and retailing	61	10.5

EXHIBIT 4

NUMBER OF FIRMS INTERVIEWED, BY TYPE OF BUSINESS ACTIVITY
AND CITY SIZE

Type of business activity	Number of firms	Percentage of group	Percentage of type in entire sample
A. In two large cities			
Manufacturing	108	31.0	67.9
Manufacturing and merchandising	37	10.6	67.3
Wholesaling	46	13.2	71.9
Retailing	117	33.7	48.5
Wholesaling and retailing	40	11.5	65.6
Total, all types	348	100.0	60.0
B. In five small cities			
Manufacturing	51	22.0	32.1
Manufacturing and merchandising	18	7.8	32.7
Wholesaling	18	7.8	28.1
Retailing	124	53.3	51.5
Wholesaling and retailing	21	9.1	34.4
Total, all types	232	100.0	40.0

EXHIBIT 5

SIZE OF SAMPLE FIRMS, BY CITY SIZE

Number of employees	Seven cities		Two large cities		Five small cities	
	Number of firms	Per cent of total	Number of firms	Per cent of total	Number of firms	Per cent of total
1-5	82	14.1	36	10.3	46	19.8
6-10	116	20.0	60	17.2	56	24.1
11-25	157	27.1	90	25.9	67	28.9
26-50	91	15.7	62	17.8	29	12.5
51-100	69	11.9	50	14.4	19	8.2
Over 100	62	10.7	49	14.1	13	5.6
Not disclosed	3	0.5	1	0.3	2	0.9
Total, all groups	580	100.0	348	100.0	232	100.0

EXHIBIT 6

SIZE OF INCORPORATED BUSINESSES IN SEVEN SELECTED CITIES

Number of employees	Number of firms	Number of corporations	Per cent of size-group incorporated	Per cent of all corporations in size-group
1-5	82	11	13.4	3.4
6-10	116	37	31.9	11.5
11-25	157	81	51.6	25.0
26-50	91	70	76.9	21.7
51-100	69	63	91.3	19.5
Over 100	62	60	96.8	18.6
Not disclosed	3	1	33.3	0.3
Total, all groups	580	323	55.7	100.0

EXHIBIT 7

SIZE OF SAMPLE FIRMS, BY FORM OF BUSINESS

Number of employees	Corporations		Partnerships		Sole proprietorships	
	Number	Per cent in size-group	Number	Per cent in size-group	Number	Per cent in size-group
1-5	11	3.4	26	20.8	45	34.1
6-10	37	11.5	41	32.8	38	28.8
11-25	81	25.0	35	28.0	41	31.1
26-50	70	21.7	16	12.8	5	3.8
51-100	63	19.5	5	4.0	1	0.8
Over 100	60	18.6	2	1.6	0	0.0
Not disclosed	1	0.3	0	0.0	2	1.4
Total, all groups	323	100.0	125	100.0	132	100.0

EXHIBIT 8

BUSINESS LIFE INSURANCE CARRIED BY SIZE OF FIRM INTERVIEWED

Number of employees	Number of firms	Firms that reported carrying					
		Key man insurance		Business continuation insurance		Either type or both	
		Num-ber	Per cent in size-group	Num-ber	Per cent in size-group	Num-ber *	Per cent in size-group
1-5 .	82	10	12.2	6	7.3	16	19.5
6-10 . . .	116	16	13.8	15	12.9	31	26.7
11-25 . .	157	36	22.9	15	9.6	50	31.8
26-50 . .	91	32	35.2	9	9.9	40	44.0
51-100	69	27	39.1	9	13.0	34	49.3
Over 100	62	41	66.1	3	4.8	43	69.4

* In some cases these figures differ from the sum of figures for the two types because some concerns have both types and are therefore listed in both columns.

EXHIBIT 9

REASONS GIVEN BY SALESMEN FOR BUYING RESISTANCE OF CLIENTS

Reason given	Num-ber of clients	Number of cases assigned specific rank					
		1	2	3	4	5	6
Client unable to reach a decision	62	20	21	18	1	2	0
Client unable to understand the need	53	22	10	13	5	3	0
Cannot afford it	56	19	19	13	1	3	1
Future of business uncertain .	57	15	24	13	5	0	0
Definitely no need for it . . .	39	10	7	8	7	3	4
Doesn't believe in life insurance	16	0	2	5	4	3	2

EXHIBIT 10

SALES OF BUSINESS LIFE INSURANCE, BY EXPERIENCE OF AGENT

Years of experience	Percentage of answers	Percentage who reported selling	
		Business continuation	Key man
Over 10	42.6	48.5	53.1
3-10	24.4	25.7	28.3
1-3	23.0	18.5	11.1
0-1	5.3	2.1	1.2
Not stated ...	4.7	5.2	6.1

THE PROBLEM

The worker had some questions to be answered before any semblance of reasonable action could be undertaken. His first question was, "What is the objective of the study?" The answer given by the director was, "To study the extent to which business life insurance is used by various types of business."

The next question was, "How many of the tables shall be used in the interpretation and should others be prepared?"

The answer to this question by the director was, "Use the tables and prepare any others that are necessary to fulfill the objectives of the study."

The director added, "Discard any tables that do not seem to be suitable for the task assigned to you."

ACTION NEEDED

Prepare a one thousand word interpretive report utilizing the tables that seem to be appropriate on the Extent of the Uses of Life Insurance by Business, with particular reference to:

1. Characteristics of the segment of the market studied.
2. Analysis of purchasers of insurance by size, business operation, type of operation, and city.

CASE 3—WHO LISTENS TO RADIO PROGRAMS?

BACKGROUND

In the fall of 1946, a study of radio listenership in Champaign County, Illinois, was made by means of the diary method. This county contains the twin cities of Champaign-Urbana, a number of small villages, and a substantial farm population. A sample of 528 adults (18 years old or more) was selected from the population of this county, and each adult was requested to keep a diary of his radio listening for the week of November 3-9, 1946. The diary provided space for recording station listenership by 15-minute intervals from 6:00 A.M. to midnight for seven consecutive days. In addition, classifying information was secured on these adults in an initial personal interview on such characteristics as sex, age, education, and place of residence.

THE PROBLEM

The objective of the study was to determine some of the factors that influence listenership to different types of radio programs. In other words, what characteristics of an individual seem to be most closely related to listenership of various types of radio programs? To throw some light on this question, tabulations were made of female listenership to eighty-eight individual programs by three characteristics of the listener: education, area of residence, and age. Study of female listenership was emphasized in the study because most men are not able to listen to a radio when many programs are on. These eighty-eight programs were classified under six major headings: news, religion, music, drama, audience participation, and homemaking.

The results of these tabulations are shown in the accompanying exhibits. The percentages shown refer to the proportion of women in that particular category—the total number being shown in the row labeled “number in sample”—reported listening to each program. The last exhibit provides a special breakdown of sports listenership by sex and education groups.

EXHIBIT 1

PERCENTAGE OF WOMEN LISTENING TO SELECTED PROGRAMS, BY
EDUCATION GROUPS

Program	Time	Education		
		Grade school	High school	Col-lege
Number in sample .....	.....	66	138	76
News				
<i>Single Commentators</i>				
Drew Pearson	Sun. 5:00 P.M.	21.2%	12.9%	11.8%
Paul Harvey	Sun. 10:00 P.M.	4.5	7.2	5.3
Gabriel Heatter	Sun. 9:00 P.M.	7.5	1.4	1.4
Gabriel Heatter	Wed. 8:00 P.M.	8.2	8.4	6.6
<i>Round Table Discussions</i>				
Northwestern Reviewing				
Stand	Sun. 10:30 A.M.	*	*	2.6
World Front	Sun. 11:00 A.M.	*	1.4	1.3
Town Meeting of the Air ..	Thurs. 7:30 P.M.	4.5	5.5	9.5
<i>Gossip Columnists</i>				
Louella Parsons	Sun. 8:15 P.M.	2.3	13.8	9.2
Jimmy Fidler	Sun. 8:30 P.M.	4.6	10.1	6.6
Walter Winchell	Sun. 8:00 P.M.	17.8	26.3	11.9
Religion				
Little Brown Church	Sun. 9:15 A.M.	16.7	9.4	4.4
Local Church Service ..	Sun. 11:00 A.M.	4.5	6.7	5.3
Hymns of All Churches ..	M-F 9:30 A.M.	14.5	11.4	4.8
Salt Lake City Choir	Sun. 8:15 A.M.	3.0	1.5	2.6
Music				
<i>Classical</i>				
New York Philharmonic ..	Sun. 2:00 P.M.	*	3.3	11.4
NBC Symphony	Sun. 4:00 P.M.	1.9	*	5.9
Chicago Theater of the Air	Sat. 9:00 P.M.	3.4	2.2	4.3
"400" Hour	M-Sat. 7:00 A.M.	*	1.3	4.3
<i>Semiclassical</i>				
RCA Victor Show	Sun. 1:00 P.M.	2.3	*	6.6
Harvest of Stars	Sun. 1:30 P.M.	1.5	1.4	7.9
Hour of Charm	Sun. 3:30 P.M.	*	6.2	17.1
Voice of Firestone	Mon. 7:30 P.M.	2.3	9.8	13.1
Telephone Hour	Mon. 8:00 P.M.	2.3	10.5	15.8
Contented Program	Mon. 9:00 P.M.	3.8	5.4	7.9

* Less than 1 per cent.

EXHIBIT 1—Continued

Program	Time	Education		
		Grade school	High school	Col-lege
Number in sample .....	.....	66	138	76
<i>Popular</i>				
Shaeffer Parade	Sun. 2:00 P.M.	5.3%	1.8%	8.5%
Manhattan Merry-Go-Round	Sun. 8:00 P.M.	6.8	11.9	15.1
American Album of Familiar Music	Sun. 8:30 P.M.	1.5	12.0	15.8
Your Hit Parade	Sat. 8:00 P.M.	9.1	11.8	9.2
Fred Waring	M-F 10:00 A.M.	1.2	3.6	6.8
<i>Folk Music</i>				
Gene Autry	Sun. 6:00 P.M.	2.3	5.8	2.0
Prairie Ramblers; Sage Riders	M-F 7:00 A.M.	11.4	6.5	4.2
WLS Barn Dance	Sat. 7:30 P.M.	18.2	17.9	11.8
Dinner Bell Time	M-F 12:30 P.M.	17.4	6.1	8.0
<i>Drama</i>				
<i>Good Drama</i>				
Cavalcade of America . . .	Mon. 7:00 P.M.	1.5	7.3	6.5
Lux Radio Theater	Mon. 8:00 P.M.	12.1	19.1	12.1
Theatre Guild on the Air..	Sun. 9:00 P.M.	4.6	4.0	11.5
<i>Family Type Drama</i>				
Blondie	Sun. 6:30 P.M.	8.4	13.4	7.9
The Great Gildersleeve . .	Wed. 7:30 P.M.	7.6	14.5	9.2
A Date With Judy	Tues. 7:30 P.M.	6.1	12.0	11.8
The Aldrich Family	Thurs. 7:00 P.M.	7.6	12.7	5.9
Baby Snooks	Fri. 7:00 P.M.	8.3	10.8	3.9
<i>Detective Shows</i>				
Counterspy	Sun. 4:30 P.M.	4.6	4.0	1.3
Crime Doctor	Sun. 7:30 P.M.	4.6	5.8	1.3
Inner Sanctum	Mon. 7:00 P.M.	6.8	7.6	2.6
Mr. District Attorney	Wed. 8:30 P.M.	7.6	1.5	6.6
This Is Your FBI	Fri. 7:30 P.M.	5.3	8.7	2.0
The Lone Ranger	MWF 6:30 P.M.	14.1	11.9	5.2
<i>Comedy and Variety</i>				
Jack Benny Show	Sun. 6:00 P.M.	10.6	25.7	21.1
McCarthy and Bergen	Sun. 7:00 P.M.	13.6	26.5	39.5
Fred Allen	Sun. 7:30 P.M.	37.3	21.7	30.3
Victor Borge	Mon. 8:30 P.M.	3.0	9.1	13.8
Bing Crosby	Wed. 9:00 P.M.	12.9	13.7	11.8

EXHIBIT 1—Continued

Program	Time	Education		
		Grade school	High school	College
Number in sample .....	.....	66	138	76
<i>Housewife Variety</i>				
Breakfast Club	M-F 8:00 A.M.	14.7%	16.6%	6.4%
Breakfast in Hollywood ..	M-F 10:00 A.M.	17.6	19.8	9.2
<i>Family Serial</i>				
One Man's Family	Sun. 2:30 P.M.	6.1	6.9	10.5
Lum and Abner	M-F 7:00 P.M.	19.6	13.8	7.4
<i>Soap Operas</i>				
Our Gal Sunday	M-F 11:45 A.M.	4.9	3.9	1.5
Guiding Light	M-F 12:45 P.M.	6.7	5.5	3.4
Life Can Be Beautiful ..	M-F 2:00 P.M.	4.3	8.0	3.9
Lorenzo Jones	M-F 3:30 P.M.	13.3	6.2	3.4
Portia Faces Life	M-F 4:15 P.M.	10.3	4.2	3.2
<i>Audience Participation</i>				
<i>Quiz Shows</i>				
Quiz Kids	Sun. 3:00 P.M.	10.6	5.8	11.8
Take It or Leave It	Sun. 9:00 P.M.	7.6	11.2	7.9
Dr. I. Q.	Mon. 8:30 P.M.	6.8	8.7	3.9
Break the Bank	Fri. 8:00 P.M.	6.1	4.4	1.3
Twenty Questions	Sat. 7:00 P.M.	1.5	*	5.9
<i>Studio Interviews</i>				
Queen for a Day	M-F 1:00 P.M.	*	2.3	*
Bride and Groom	M-F 1:30 P.M.	12.8	7.9	4.0
Ladies Be Seated	M-F 2:00 P.M.	7.1	7.5	2.1
<i>Amateur Shows</i>				
Sachs' Amateur Hour	Sun. 12:30 P.M.	20.8	13.6	5.9
<i>Homemaking</i>				
Food Magician	M-F 11:00 A.M.	1.5	1.5	1.6
Betty Crocker	M-F 1:30 P.M.	9.6	5.5	3.4
Mary Lee Taylor ..	Sat. 9:30 A.M.	1.5	2.5	*

EXHIBIT 2

PERCENTAGE OF WOMEN LISTENING TO SELECTED PROGRAMS, BY
AREA OF RESIDENCE

Program	Time	Area of residence		
		Urban	Village	Farm
Number in sample		150	74	75
News				
<i>Single Commentators</i>				
Drew Pearson	Sun. 5:00 P.M.	12.0%	10.8%	20.0%
Paul Harvey	Sun. 10:00 P.M.	5.3	6.8	5.3
Gabriel Heatter	Sun. 9:00 P.M.	2.0	*	4.0
Gabriel Heatter	Wed. 8:00 P.M.	7.3	12.0	10.7
<i>Round Table Discussions</i>				
Northwestern Reviewing Stand	Sun. 10:30 A.M.	1.3	*	1.3
World Front	Sun. 11:00 A.M.	*	1.3	1.3
Town Meeting of the Air . .	Thurs. 7:30 P.M.	5.3	10.6	10.3
<i>Gossip Columnists</i>				
Louella Parsons	Sun. 8:15 P.M.	16.7	4.0	9.3
Jimmy Fidler	Sun. 8:30 P.M.	12.0	4.0	5.3
Walter Winchell	Sun. 8:00 P.M.	27.3	21.6	28.0
Religion				
Little Brown Church	Sun. 9:15 A.M.	8.5	7.7	12.0
Local Church Service	Sun. 11:00 A.M.	9.3	5.4	*
Hymns of All Churches . . .	M-F 9:30 A.M.	5.3	10.8	14.7
Salt Lake City Choir	Sun. 8:15 A.M.	4.0	3.3	*
Music				
<i>Classical</i>				
New York Philharmonic . . .	Sun. 2:00 P.M.	7.1	6.9	*
NBC Symphony	Sun. 4:00 P.M.	3.4	*	2.0
Chicago Theater of the Air . .	Sat. 9:00 P.M.	4.1	3.7	*
"400" Hour	M-Sat. 7:00 A.M.	2.5	1.7	2.6
<i>Semiclassical</i>				
RCA Victor Show	Sun. 1:00 P.M.	4.7	*	*
Harvest of Stars	Sun. 1:30 P.M.	5.6	*	*
Hour of Charm	Sun. 3:30 P.M.	11.0	6.7	4.0
Voice of Firestone	Mon. 7:30 P.M.	10.0	5.4	10.7
Telephone Hour	Mon. 8:00 P.M.	11.9	5.4	9.3
Contented Program	Mon. 9:00 P.M.	8.9	6.1	*
<i>Popular</i>				
Shaeffer Parade	Sun. 2:00 P.M.	5.0	4.1	2.7

* Less than 1 per cent.

EXHIBIT 2—Continued

Program	Time	Area of residence		
		Urban	Village	Farm
Number in sample		150	74	75
Music—continued				
Manhattan Merry-Go-Round	Sun. 8:00 P.M.	11.0%	15.6%	7.4%
American Album of Familiar Music	Sun. 8:30 P.M.	12.3	12.9	3.3
Your Hit Parade	Sat. 8:00 P.M.	14.6	6.2	5.3
Fred Waring	M-F 10:00 A.M.	5.3	2.7	*
Folk Music				
Gene Autry	Sun. 6:00 P.M.	4.7	2.7	4.0
Prairie Ramblers; Sage Riders	M-F 7:00 A.M.	3.4	5.3	15.3
WLS Barn Dance	Sat. 7:30 P.M.	13.6	15.3	25.0
Dinner Bell Time	M-F 12:30 P.M.	5.7	6.1	15.4
Drama				
Good Drama				
Cavalcade of America	Mon. 7:00 P.M.	5.3	4.0	9.3
Lux Radio Theater	Mon. 8:00 P.M.	17.7	16.5	10.6
Theatre Guild on the Air	Sun. 9:00 P.M.	8.5	7.1	1.3
Family Type Drama				
Blondie	Sun. 6:30 P.M.	13.0	8.8	6.7
The Great Gildersleeve	Wed. 7:30 P.M.	12.9	8.0	12.0
A Date With Judy	Thurs. 7:30 P.M.	11.3	10.9	10.0
The Aldrich Family	Thurs. 7:00 P.M.	14.4	16.4	10.7
Baby Snooks	Fri. 7:00 P.M.	10.1	8.9	4.7
Detective Shows				
Counterspy	Sun. 4:30 P.M.	4.7	4.1	2.0
Crime Doctor	Sun. 7:30 P.M.	3.3	6.7	4.0
Inner Sanctum	Mon. 7:00 P.M.	9.2	2.8	1.3
Mr. District Attorney	Wed. 8:30 P.M.	11.6	12.0	8.7
This Is Your FBI	Fri. 7:30 P.M.	6.3	*	11.4
The Lone Ranger	MWF 6:30 P.M.	8.3	6.8	15.3
Comedy and Variety				
Jack Benny Show	Sun. 6:00 P.M.	29.0	16.2	13.4
McCarthy and Bergen	Sun. 7:00 P.M.	34.7	25.0	14.0
Fred Allen	Sun. 7:30 P.M.	34.7	19.0	8.0
Victor Borge	Mon. 8:30 P.M.	11.9	2.7	8.0
Bing Crosby	Wed. 9:00 P.M.	11.3	20.7	9.3
Housewife Variety				
Breakfast Club	M-F 8:00 A.M.	7.4	19.3	14.0
Breakfast in Hollywood	M-F 10:00 A.M.	10.6	23.0	19.4

EXHIBIT 2—Continued

Program	Time		Area of residence		
			Urban	Village	Farm
Number in sample			150	74	75
<i>Family Serial</i>					
One Man's Family	Sun.	2:30 P.M.	9.7%	3.4%	10.0%
Lum and Abner	M-F	7:00 P.M.	6.0	19.7	30.7
<i>Soap Operas</i>					
Our Gal Sunday	M-F	11:45 A.M.	6.0	8.1	9.3
Guiding Light	M-F	12:45 P.M.	6.0	4.1	4.0
Life Can Be Beautiful	M-F	2:00 P.M.	4.6	4.1	9.3
Lorenzo Jones	M-F	3:30 P.M.	2.6	6.8	13.3
Portia Faces Life	M-F	4:15 P.M.	3.3	4.1	12.0
<i>Audience Participation</i>					
<i>Quiz Shows</i>					
Quiz Kids	Sun.	3:00 P.M.	11.4	5.4	8.0
Take It or Leave It	Sun.	9:00 P.M.	12.6	8.1	7.4
Dr. I. Q.	Mon.	8:30 P.M.	8.0	7.5	5.3
Break the Bank	Fri.	8:00 P.M.	3.3	1.3	7.3
Twenty Questions	Sat.	7:00 P.M.	4.3	1.9	*
<i>Studio Interviews</i>					
Queen for a Day	M-F	1:00 P.M.	1.3	1.3	2.7
Bride and Groom	M-F	1:30 P.M.	4.0	6.8	13.3
Ladies Be Seated	M-F	2:00 P.M.	3.3	6.8	7.4
<i>Amateur Shows</i>					
Sachs' Amateur Hour	Sun.	12:30 P.M.	11.7	5.6	23.0
<i>Homemaking</i>					
Food Magician	M-F	11:00 A.M.	1.3	2.7	2.7
Betty Crocker	M-F	1:30 P.M.	6.6	4.1	2.7
Mary Lee Taylor	Sat.	9:30 A.M.	*	1.9	*

EXHIBIT 3

PERCENTAGE OF WOMEN LISTENING TO SELECTED PROGRAMS, BY AGE GROUPS

Program	Time	Age			
		18-24 years	25-39 years	40-59 years	60 years and over
Number in sample		44	97	108	43
News					
<i>Single Commentator</i>					
Drew Pearson	Sun. 5:00 P.M.	2.3%	9.3%	19.5%	20.9%
Paul Harvey	Sun. 10:00 P.M.	4.5	5.2	8.3	2.3
Gabriel Heatter . . .	Sun. 9:00 P.M.	*	2.1	2.8	7.0
Gabriel Heatter	Wed. 8:00 P.M.	*	9.3	11.1	4.7
<i>Round Table Discussions</i>					
Northwestern Review- ing Stand	Sun. 10:30 A.M.	*	2.1	*	*
World Front	Sun. 11:00 A.M.	*	3.1	*	*
Town Meeting of the Air	Thurs. 7:30 P.M.	1.7	5.7	7.0	11.6
<i>Gossip Columnists</i>					
Louella Parsons	Sun. 8:15 P.M.	6.8	7.2	16.7	16.3
Jimmy Fidler	Sun. 8:30 P.M.	2.3	7.2	11.1	9.3
Walter Winchell . . .	Sun. 8:00 P.M.	11.4	17.5	35.2	34.9
Religion					
Little Brown Church	Sun. 9:15 A.M.	4.5	5.9	10.8	18.6
Local Church Service	Sun. 11:00 A.M.	2.3	3.1	8.3	12.2
Hymns of All Churches	M-F 9:30 A.M.	*	15.5	5.6	9.3
Salt Lake City Choir . .	Sun. 8:15 A.M.	*	2.1	2.8	5.8
Music					
<i>Classical</i>					
New York Philhar- monic	Sun. 2:00 P.M.	5.3	5.1	12.5	5.8
NBC Symphony	Sun. 4:00 P.M.	4.5	1.0	2.1	4.1
Chicago Theater of the Air	Sat. 9:00 P.M.	2.3	3.4	3.9	1.7
"400" Hour	M-Sat. 7:00 A.M.	1.7	1.8	3.0	2.3
<i>Semiclassical</i>					
RCA Victor Show . . .	Sun. 1:00 P.M.	6.8	1.0	2.3	2.3
Harvest of Stars . . .	Sun. 1:30 P.M.	6.8	1.0	3.9	2.3
Hour of Charm	Sun. 3:30 P.M.	20.5	5.2	7.4	3.5

* Less than 1 per cent.

EXHIBIT 3—Continued

Program	Time	Age			
		18-24 years	25-39 years	40-59 years	60 years and over
Number in sample .....	.....	44	97	108	43
<i>Music—continued</i>					
Voice of Firestone ...	Mon. 7:30 P.M.	6.8%	11.3%	7.4%	14.0%
Telephone Hour	Mon. 8:00 P.M.	11.4	9.8	7.4	16.3
Contented Program	Mon. 9:00 P.M.	6.8	7.7	4.1	9.3
<i>Popular</i>					
Shaeffer Parade	Sun. 2:00 P.M.	4.5	3.1	5.6	5.8
Manhattan Merry-Go-Round ..	Sun. 8:00 P.M.	18.2	13.9	9.2	11.6
American Album of Familiar Music	Sun. 8:30 P.M.	12.5	11.9	9.7	10.5
Your Hit Parade ...	Sat. 8:00 P.M.	11.4	8.9	9.6	2.3
Fred Waring	M-F 10:00 A.M.	6.8	5.2	*	*
<i>Folk Music</i>					
Gene Autry	Sun. 6:00 P.M.	9.1	6.2	1.8	10.5
Prairie Ramblers; Sage Riders ...	M-F 7:00 A.M.	4.5	8.2	4.6	2.3
WLS Barn Dance .	Sat. 7:30 P.M.	15.0	18.8	16.7	14.0
Dinner Bell Time ..	M-F 12:30 P.M.	1.1	6.2	12.0	9.3
<i>Drama</i>					
<i>Good Drama</i>					
Cavalcade of America	Mon. 7:00 P.M.	4.5	10.3	4.6	7.0
Lux Radio Theater .	Mon. 8:00 P.M.	14.8	14.7	16.2	4.7
Theatre Guild on the Air . . .	Sun. 9:00 P.M.	8.5	6.2	5.8	4.7
<i>Family Type Drama</i>					
Blondie	Sun. 6:30 P.M.	15.9	13.9	7.8	8.1
The Great Gildersleeve	Wed. 7:30 P.M.	15.9	9.8	8.3	18.6
A Date With Judy	Thurs. 7:30 P.M.	10.3	15.5	7.4	7.0
The Aldrich Family .	Thurs. 7:00 P.M.	10.3	21.6	9.3	14.0
Baby Snooks	Fri. 7:00 P.M.	3.4	12.4	9.8	4.7
<i>Detective Shows</i>					
Counterspy	Sun. 4:30 P.M.	6.8	1.0	5.1	3.5
Crime Doctor	Sun. 7:30 P.M.	9.1	6.2	2.8	1.2
Inner Sanctum	Mon. 7:00 P.M.	6.8	5.2	5.5	2.3
Mr. District Attorney	Wed. 8:30 P.M.	6.8	21.1	6.5	2.3
This Is Your FBI ..	Fri. 7:30 P.M.	4.5	8.2	5.1	4.7
The Lone Ranger	MWF 6:30 P.M.	4.5	18.5	5.6	8.1

EXHIBIT 3—Continued

Program	Time	Age			
		18-24 years	25-39 years	40-59 years	60 years and over
Number in sample		44	97	108	43
<i>Comedy and Variety</i>					
Jack Benny Show	Sun. 6:00 P.M.	15.9%	24.7%	15.3%	33.7%
McCarthy and Bergen	Sun. 7:00 P.M.	22.7	28.3	27.3	27.9
Fred Allen	Sun. 7:30 P.M.	18.2	25.8	21.7	22.1
Victor Borge	Mon. 8:30 P.M.	4.5	10.3	6.5	16.3
Bing Crosby	Wed. 9:00 P.M.	13.6	17.0	11.5	5.9
<i>Housewife Variety</i>					
Breakfast Club	M-F 8:00 A.M.	1.2	22.4	10.4	4.7
Breakfast in Hollywood	M-F 10:00 A.M.	6.8	22.7	11.6	10.4
<i>Family Serial</i>					
One Man's Family	Sun. 2:30 P.M.	6.8	6.2	6.5	22.1
Lum and Abner	M-F 7:00 P.M.	6.8	14.4	13.9	16.3
<i>Soap Operas</i>					
Our Gal Sunday	M-F 11:45 A.M.	4.5	3.1	2.8	2.3
Guiding Light	M-F 12:45 P.M.	2.3	2.1	*	2.3
Life Can Be Beautiful	M-F 2:00 P.M.	6.8	6.2	1.9	11.6
Lorenzo Jones	M-F 3:30 P.M.	4.5	3.1	7.4	11.6
Portia Faces Life	M-F 4:15 P.M.	2.3	5.2	3.7	14.0
<i>Audience Participation</i>					
<i>Quiz Shows</i>					
Quiz Kids	Sun. 3:00 P.M.	4.6	2.6	11.1	22.1
Take It or Leave It	Sun. 9:00 P.M.	11.4	7.2	10.1	7.0
Dr. I. Q.	Mon. 8:30 P.M.	4.5	8.8	7.4	16.3
Break the Bank	Fri. 8:00 P.M.	*	7.2	*	4.7
Twenty Questions	Sat. 7:00 P.M.	2.3	*	3.7	4.7
<i>Studio Interviews</i>					
Queen for a Day	M-F 1:00 P.M.	*	1.0	1.9	2.3
Bride and Groom	M-F 1:30 P.M.	*	9.3	8.3	2.3
Ladies Be Seated	M-F 2:00 P.M.	*	9.3	2.3	2.3
<i>Amateur Shows</i>					
Sachs' Amateur Hour	Sun. 12:30 P.M.	12.5	11.6	13.2	7.1
<i>Homemaking</i>					
Food Magician	M-F 11:00 A.M.	*	3.1	1.9	2.3
Betty Crocker	M-F 1:30 P.M.	6.8	4.1	2.8	14.0
Mary Lee Taylor	Sat. 9:30 A.M.	*	2.6	1.4	*

EXHIBIT 4

PERCENTAGE OF LISTENING BY WOMEN AND MEN TO SELECTED
SUNDAY PROGRAMS, URBAN LISTENERS

Program	Time	Women	Men
Number in sample . . . . .	. . . . .	150	112
News			
<i>Single Commentators</i>			
Drew Pearson	5:00 P.M.	12.0%	10.7%
Paul Harvey	10:00 P.M.	5.3	7.1
Gabriel Heatter	9:00 P.M.	2.0	2.7
<i>Round Table Discussions</i>			
Northwestern Reviewing Stand . .	10:30 A.M.	1.3	*
World Front	11:00 A.M.	*	*
<i>Gossip Columnists</i>			
Louella Parsons	8:15 P.M.	16.7	14.3
Jimmy Fidler	8:30 P.M.	12.0	12.5
Walter Winchell	8:00 P.M.	27.3	22.3
Religion			
Little Brown Church	9:15 A.M.	8.5	3.9
Local Church Service	11:00 A.M.	9.3	5.8
Salt Lake City Choir	8:15 A.M.	4.0	1.4
Music			
<i>Classical</i>			
New York Philharmonic	2:00 P.M.	7.1	4.8
NBC Symphony	4:00 P.M.	3.4	2.9
<i>Semiclassical</i>			
RCA Victor Show	1:00 P.M.	4.7	3.6
Harvest of Stars	1:30 P.M.	5.6	1.8
Hour of Charm	3:30 P.M.	11.0	6.8
<i>Popular</i>			
Shaeffer Parade	2:00 P.M.	5.0	3.2
Manhattan Merry-Go-Round	8:00 P.M.	11.0	8.5
American Album of Familiar Music	8:30 P.M.	12.3	9.8
<i>Folk Music</i>			
Gene Autry	6:00 P.M.	4.7	*
Drama			
<i>Good Drama</i>			
Theatre Guild on the Air	9:00 P.M.	8.5	6.0

* Less than 1 per cent.

EXHIBIT 4—Continued

Program	Time	Women	Men
Number in sample .....	.....	150	112
<i>Family Type Drama</i>			
Blondie	6:30 P.M.	13.0 %	13.8 %
<i>Detective Shows</i>			
Counterspy	4:30 P.M.	4.7	4.5
Crime Doctor	7:30 P.M.	3.3	6.3
<i>Comedy and Variety</i>			
Jack Benny Show	6:00 P.M.	29.0	25.5
Jack Parr	6:00 P.M.		
McCarthy and Bergen	7:00 P.M.	34.7	29.1
Alec Templeton	7:00 P.M.		
Fred Allen	7:30 P.M.	34.7	30.8
<i>Family Serial</i>			
One Man's Family	2:30 P.M.	9.7	3.2
Audience Participation			
<i>Quiz Shows</i>			
Quiz Kids	3:00 P.M.	11.4	3.6
Take It or Leave It	9:00 P.M.	12.6	10.3
<i>Amateur Shows</i>			
Sachs' Amateur Hour	12:30 P.M.	11.7	6.9
Sports			
College Football (Sat.) ^a	Sat. P.M.	15.8	18.3
Professional Football ^b	Sun. P.M.	1.7	6.4
Baseball ^c	Sun. P.M.		...

^a Broadcast on Saturday, Nov. 9. Games included were Army vs. Notre Dame and Indiana vs. Northwestern.

^b Bears vs. Packers.

^c Included three games, Cubs, Cardinals, White Sox and opponents.

ACTION NEEDED

1. What inferences do these tables allow to be made regarding the relationship of the characteristics studied to program listenership?
2. Judging by these results, what additional tabulations would it seem desirable to obtain?

EXHIBIT 5

PERCENTAGE OF LISTENING TO SELECTED SPORTS PROGRAMS BY SEX
AND EDUCATION GROUPS

Sex and Education	Type of sports program		
	College football	Professional football	Baseball
<i>Women</i>			
Grade school	12.1%	4.0%	3.9%
High school	16.7	3.2	9.2
College	19.1	*	5.5
<i>Men</i>			
Grade school	12.7	10.5	11.0
High school	11.8	10.3	15.8
College	29.4	4.4	6.7

* Less than 1 per cent.

CASE 4—EVALUATING THE EFFECTIVENESS
OF ADVERTISING

THE PROBLEM

One of the principal objectives of the survey on public attitudes toward prefabricated housing (Part IV, Case 3), it will be recalled, was to ascertain the effect of advertising and other prefabricated housing literature on these attitudes. The information gleaned on this question from the survey was condensed into a number of analytical tables and charts, which are reproduced on pp. 264-70. The problem is to determine what inferences on this subject would seem warranted from an examination of these data.

DATA AVAILABLE

Two aspects of the subject are covered in these tables and charts, namely, the degree to which literature and material on prefabrication is noted, i.e., recalled, and the effect of this material on the reader's attitudes toward the product when this

advertising is noticed. (In this respect, seeing prefabricated houses was treated as a form of advertising, which, of course, it is.) Exhibits 1-7 relate to the first question, presenting statistics on the percentage of respondents in particular population groups reporting notice of any or none of four different forms of prefab material: articles, advertisements, manufacturers' promotional literature, and visual inspection.

The second question, the effect of prefab literature or sight of prefab houses on the respondent's attitude, is treated in the charts on pp. 267-69 and Exhibits 10 and 12. The chart on page 267 portrays a percentage breakdown of the persons noticing each form of prefab material according to its effect on them,

EXHIBIT 1

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB HOUSES
OR LITERATURE, BY TYPE OF RESIDENCE

Type of Notice	Type of present residence			
	Standard house	Prefab	Apartment	Total
Article	46%	76%	52%	48%
Advertisement	38	69	46	41
Promotional literature	19	31	26	21
Inspection ¹	12	100	10	17
Not stated	5	—	—	4
No notice	25	—	26	23
Total	145%	276%	160%	154%*
Number of respondents	345	30	64	439

* Percentages total more than 100 because many respondents gave more than one reply.

¹ Only one out of every nine non-prefab dwelling families reported having seen a prefab house. However, there seems to have been some confusion about the meaning of this particular question, many persons not realizing that they were being asked whether they had seen prefab houses. The only persons who acknowledged having seen prefabs, except prefab dwellers, were apparently those who had inspected model prefab homes, and possibly not even all of this group. A follow-up survey of a subsample of 71 families revealed that actually about three fourths of the respondents had seen prefabs at one time or another, at least from the outside. Some slight adjustments in the interpretation of the attitudes of those who had seen prefab houses was made on the basis of information obtained from these follow-up interviews.

EXHIBIT 2

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB
HOUSES OR LITERATURE, BY SEX

Type of notice	Male	Female	Total
Article	60%	45%	51%
Advertisement	49	37	42
Promotional literature	29	18	22
Inspection	6	14	11
Not stated	4	4	4
No notice	19	26	23
Total	167%	144%	153%
Number of respondents	168	270	438

EXHIBIT 3

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB HOUSES
OR LITERATURE, BY MARITAL STATUS

Type of notice	Single	Married	Other	Total
Article	64%	51%	35%	51%
Advertisement	58	41	35	42
Promotional literature	22	24	11	22
Inspection	16	10	13	11
Not stated	2	4	4	4
No notice	31	20	37	23
Total	193%	150%	135%	153%
Number of respondents	45	347	46	438

EXHIBIT 4

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB
HOUSES OR LITERATURE, BY OCCUPATION

Type of notice	Prof., Mgr., Prop.	Cleri- cal, sales	Skilled, semi- skilled	Un- skilled	Other	Total
Article	62%	50%	37%	28%	50%	50%
Advertisement	48	50	30	30	40	41
Promotional literature	27	23	22	8	18	22
Inspection	11	12	12	22	3	11
Not stated	4	4	6	2	2	4
No notice	12	21	31	30	27	22
Total	164%	160%	138%	120%	140%	150%
Number of respondents	168	48	90	40	88	434

MARKETING RESEARCH

EXHIBIT 5

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB HOUSES OR LITERATURE, BY SIZE OF HOUSEHOLD

Type of notice	One	Two	Three	Four	Five or more	Total
Article	35%	54%	54%	52%	39%	50%
Advertisement	28	48	45	39	29	41
Promotional literature	12	24	27	20	14	22
Inspection	12	13	8	12	4	11
Not stated	2	4	6	3	—	3
No notice	22	26	20	19	12	21
Total	111%	169%	160%	145%	98%	148%
Number of respondents	40	135	109	100	49	433

EXHIBIT 6

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB HOUSES OR LITERATURE, BY AGE OF RESPONDENT

Type of notice	Under 21	21-34	35-49	50 and over	Total
Article	75%	63%	47%	39%	51%
Advertisement	62	52	36	33	42
Promotional literature	12	32	19	14	22
Inspection	—	8	12	14	11
Not stated	12	4	2	4	4
No notice	12	15	24	33	23
Total	173%	174%	140%	137%	153%
Number of respondents	8	175	100	153	436

EXHIBIT 7

PERCENTAGE OF RESPONDENTS REPORTING NOTICE OF PREFAB HOUSES OR LITERATURE, BY INCOME

Type of notice	Under \$1500	\$1500-\$2599	\$2600-\$4199	\$4200-\$6599	\$6600 and over	Total
Article	42%	42%	54%	52%	74%	53%
Advertisement	25	32	47	49	49	44
Promotional literature	11	12	19	32	32	22
Inspection	14	8	12	12	4	11
Not stated	3	7	3	4	6	4
No notice	33	25	26	13	13	21
Total	128%	126%	161%	162%	178%	155%
Number of respondents	36	60	129	114	47	386

as ascertained by direct questioning. The relative breakdowns by type of material noticed of answers to the question, "What do you think are the advantages and disadvantages of prefabricated houses against standard houses?" are presented in the chart on page 268. The category "written material" includes all three forms of prefab literature, inasmuch as little difference was apparent by the individual forms.

The number of advantages per disadvantage noted in the chart on page 268 and the percentage of respondents preferring to purchase a prefabricated rather than a standard house if they had only \$8,000 to spend is cross-classified against the effect of prefab literature in Exhibit 10. The base for the percentages in the last column in the table is, in each case, the total number of respondents reporting the particular "notice and effect" of prefab literature. Relative breakdowns by notice of prefab material of the preference for prefabricated houses or standard

EXHIBIT 8
WHAT PEOPLE THINK OF PREFAB MATERIAL

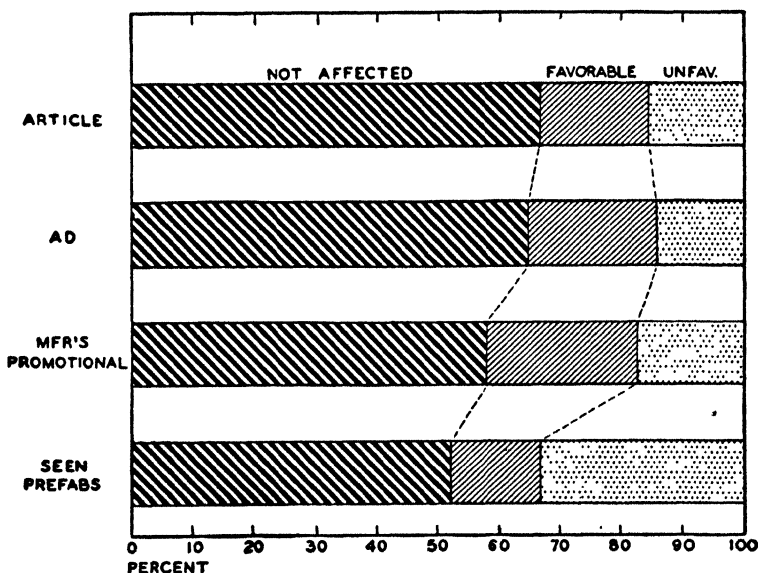


EXHIBIT 9

DIVISION OF OPINION BY SOURCE OF PREFAB NOTICES

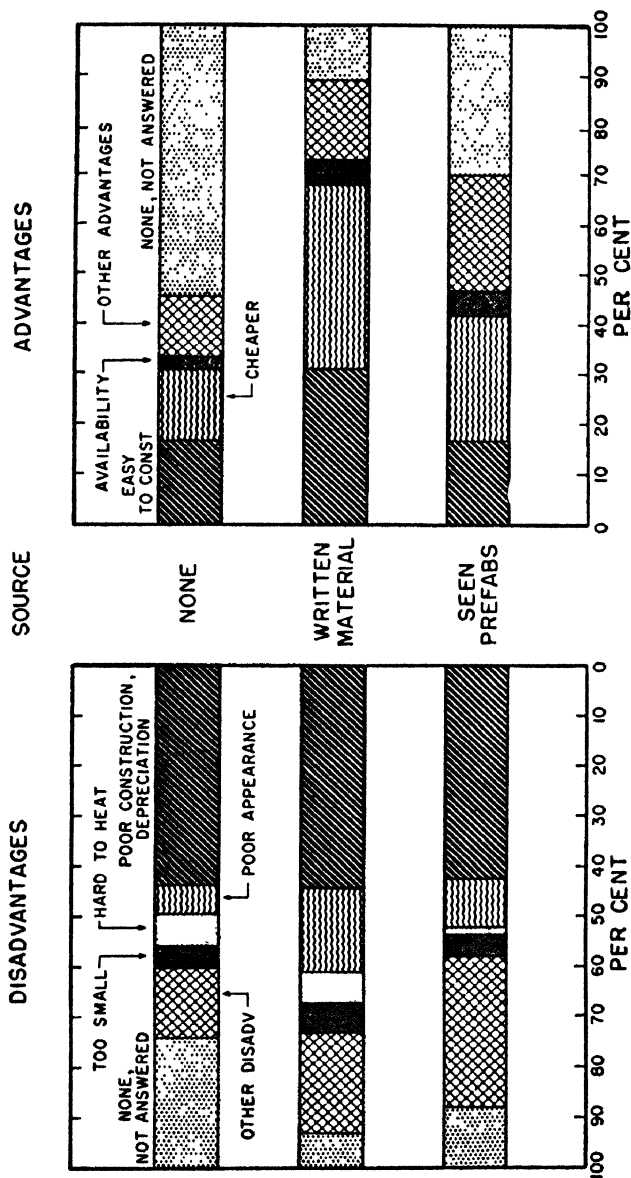


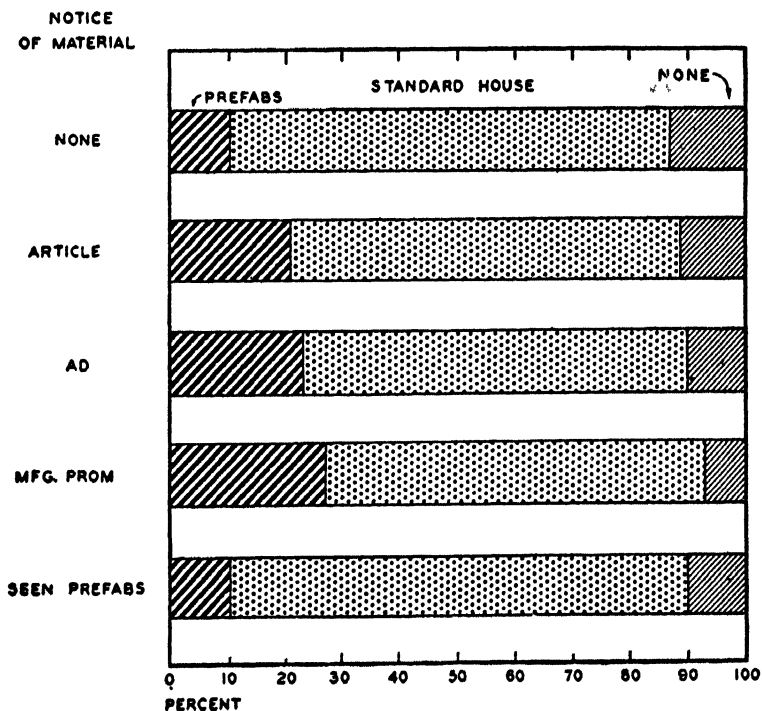
EXHIBIT 10

ADVANTAGES PER DISADVANTAGE AND PERCENTAGE PREFERENCES BY
EFFECT OF PREFAB LITERATURE

Notice and effect	Ratio of advantages to disadvantages	Per cent preferring prefab at \$8,000
No contact with literature .....	.51	11.8
Not impressed either way .....	.76	16.5
Favorably impressed	1.17	41.8
Unfavorably impressed ..	.77	25.5

EXHIBIT 11

PREFERENCE FOR PREFABS AT \$8,000 PRICE LEVEL



houses at the \$8,000 price level are shown in the chart on page 269. A request for individuals to state their preferences between prefabricated housing and standard housing at a \$12,000 price level resulted in almost 100 per cent preference for standard houses irrespective of notice and effect of prefab literature.

The last table in this series, Exhibit 12, presents information on the notice and effect of prefab material on the main brands of prefabricated homes in the area. For each brand, the table indicates the number of respondents acquainted with it and the percentage distribution of this number by brand preference. There is a fair amount of overlapping between columns because many of the respondents were acquainted with more than one brand.

EXHIBIT 12

PERCENTAGE OF PREFAB PREFERENCES STATED BY RESPONDENTS
ACQUAINTED WITH PREFAB BRANDS

Brand Preference	Brand Acquaintanceship					
	None	National	Gunnison	Lustron	Others	Not Sure
None	—	10%	10%	10%	10%	11%
National	—	12	4	2	2	—
Gunnison	—	33	38	19	21	—
Lustron	—	26	24	50	26	—
Other	—	9	8	5	31	—
Not stated	100	10	16	14	10	89
Total	100%	100%	100%	100%	100%	100%
Total replies	236	82	125	123	48	9

In assessing the significance of Exhibit 12, it is pertinent to note that the area sampled contained about five times as many National homes as Gunnisons, and about five times as many Gunnisons as Lustrons. Only a negligible number of each of a variety of other brands of prefab houses existed in the area at that time, although the total of these other brands was reasonably large. All in all, it was estimated that prefabricated housing constituted about 7 per cent of the permanent one- or two-family housing units in the area.

ACTION NEEDED

An analysis is required of these tables and charts to determine the effectiveness of prefabricated advertising and other literature. Specifically:

1. How widespread is the notice of written and other material dealing with prefabricated housing?
2. How effective is this material in altering the individual's attitude in favor of prefabricated houses?
3. On the basis of the answers to the preceding two questions, what recommendations would you be prepared to make to:
 - (a) increase the notice of prefabricated material, and (b) improve its effectiveness?

CASE 5—WHEN SHOULD RETAIL STORES BE OPEN?

BACKGROUND

A number of merchants in a city of approximately 50,000 population in Central Illinois asked the manager of the local Chamber of Commerce to review the hours at which their stores should be open. Discussion with the merchants did not offer any solution to the problem because of the great variations in opinions. Nevertheless, there appeared to be four major factors in the store hour problem that emerged from the discussion, namely, competition, employees, efficiency, and customers. It was realized that each of the factors had a number of ramifications and that agreement on the matter of store hours would not be very simple to obtain. The consensus on each of the four factors is outlined briefly below:

Competition. Rivalry between stores always is a leading consideration, often the only one. Merchants who are open longer or at different hours may attract more shoppers, and thus do a greater volume of business than those who follow another policy. The problem applies both to competing stores in the same shopping center and to competition between various centers for local and immediate rural trade.

Employees. Retailing is only one of the many fields in which competent workers may be employed, and if other employment offers more desirable working hours, retailing may suffer by obtaining lower grades of personnel. Long and wearisome hours of work also affect employee efficiency and morale, which in turn affect cost, labor turnover, and customer satisfaction.

Efficiency. The profitability of a store to a great extent depends upon the efficiency of the workers and the control of expenses relative to sales. On the one hand, there is the matter of utilizing the fixed investment in the retail plant and inventory by maximizing the sales volume done with that investment. Yet, this must be balanced against the higher variable expenses incurred by being open longer hours. Also, if store hours are longer than those worked by employees, staggering hours when clerks are at work involves additional cost, which varies among stores, being heaviest for the smaller stores, particularly those with some specialization among their clerks.

Customers. The first three factors are all related to attracting customers: longer hours enable more persons to enter stores, competent and cheerful sales persons make stores more desirable places to shop, and efficient operation tends to lower prices. Beyond these factors, there are those related to the consumers' real needs and desires regarding store hours, which must be determined before hours can properly be decided. The ultimate goal of the merchant is customer satisfaction, and this must be a dominant factor in his decision regarding store hours.

The type of shopping center obviously is an important consideration in studying the customers' needs. Shopping centers may be classified as: downtown districts in metropolitan areas; smaller cities in which city trade dominates; smaller cities in which country trade dominates; and villages whose stores deal mainly in convenience goods for a relatively small community.

In reaching their store-hour decisions, merchants must balance relevant factors against one another. For instance, it may be decided that the labor situation is so tight that employee relations should have foremost consideration. On the other hand, the district may be one with strong competition between stores and this may be the deciding factor.

If a short-run view prevails, it is unlikely that the decision will be best in the long run. If merchants give competition the main consideration and do not join their fellow retailers in planning store hours, some will probably decide to adopt hours longer or different from the others. Competitors are likely to retaliate by extending their own hours. This results in raising expenses and causing discontent among employees, and may be of little benefit to anyone in the long run.

If, on the contrary, retailers take the long-run view, they will give customer and employee interests the weight which is due them and will study carefully all factors involved. They will understand that lack of uniform hours is a nuisance from the shoppers' viewpoint, and that it is not mere number of hours but their suitability which brings maximum business. They will recognize that store hours really are a community problem to be worked out cooperatively, and not a private matter for competitive snap judgment.

THE PROBLEM

The manager of the Chamber of Commerce discussed the matter with the retail merchants and found that an impasse had been reached on the problem concerning the hours at which the retail stores should be open. The crux of the matter was that all merchants agreed that a uniform policy should be adopted, but no specific policy was favored by a substantial majority in the absence of empirical evidence. It was agreed, however, that the manager of the Chamber of Commerce should see what data could be obtained on the subject and then make some recommendation to the merchants, if possible, on store hours, or, if not possible, on deriving whatever additional information he might deem necessary for a decision to be made on the subject.

DATA AVAILABLE

After investigating the subject, the manager unearthed the data shown in the following six tables. No other data on the subject could be found.

EXHIBIT 1

ORDINARY STORE HOURS IN SELECTED CITIES IN ILLINOIS

City, population group	Number of stores which observe hours stated	Total hours open	Time of opening	Time of closing
Chicago metropolitan area:				
Downtown Chicago . .	Most stores	8	9:45	5:45
Outlying centers (77) . . .	20	8	9:30	5:30
	1	8½	9:30	5:45
	1	8½	9:00	5:30
	22	8½	9:30	6:00
	30	9	9:00	6:00
	1	9	9:30	6:30
	2	More than 9	...	...
Suburban cities (12) . . .	5	8	9:30	5:30
	4	8½	9:00	5:30
	3	9	8:30 or 9:00	5:30 or 6:00
Downstate cities and towns (68):				
Population more than 30,000 (13)	7	7½	9:30	5:00
	3	8	9:00	5:00
	3	8	9:30	5:30
Population 10,000-30,000 (20)	1	7½	9:30	5:00
	3	8	9:00	5:00
	1	8	9:30	5:30
	1	8¼	9:15	5:30
	2	8½	8:30	5:00
	9	8½	9:00	5:30
	3	9	8:30	5:30
Population less than 10,000 (35)*	2	8	9:00	5:00
	3	8½	9:00	5:30
	5	9	8:00	5:00
	6	9	8:30	5:30
	1	9	9:00	6:00
	12	9½	8:00	5:30
	1	9½	8:30	6:00
	1	10	7:00	5:00
	4	10	8:00	6:00

* Seven of these places had populations of 3,000 or less, and the smallest had only 1,400 inhabitants.

EXHIBIT 2

EVENING STORE OPENINGS IN SELECTED CITIES IN ILLINOIS

City, population group	Number whose stores are open	Number of evenings open	Days when stores open in evening
Chicago metropolitan area:			
Downtown Chicago	Most stores	1	Monday
Outlying centers (77)	1	3	Tuesday, Thursday, Saturday
	45	2	Monday, Thursday
	1	2	Tuesday, Thursday
	17	2	Thursday, Saturday
	2	1	Monday
	6	1	Thursday
	5	1	Saturday
Suburban cities (13)	8	2	Monday, Thursday
	1	1	Thursday
	2	1	Friday
	2	0	.....
Downstate cities and towns (71):			
Population more than 30,000 (13)	7	1	Monday
	2	1	Friday
	3	1	Saturday
	1	0	... ..
Population 10,000-30,000 (21)	4	1	Monday
	1	1	Friday
	13	1	Saturday
	3	0	. . . . .
Population less than 10,000 (37)	1	1	Friday
	28	1	Saturday
	8	0	... ..

MARKETING RESEARCH

EXHIBIT 3

MORNING CLOSING, COMBINED WITH EVENING OPENING,
SELECTED CITIES IN ILLINOIS

City, population group	Number combining evening opening with morning or afternoon closing	Number of days plan is practiced	Days when plan is used
Chicago metropolitan area:			
Downtown Chicago . .	Most major stores	1	Monday
Outlying centers	1	2	Monday, Thursday
	1	2	Monday, Saturday
	20	1	Monday
Suburban cities	2	2	Monday, Thursday
	1	1	Monday
	2	1	Friday
Downstate cities and towns:			
Population more than 30,000	7	1	Monday
	2	1	Friday
Population 10,000-30,000	2	1	Monday
Population less than 10,000	None	...	.....

EXHIBIT 4

MORNING OR AFTERNOON CLOSING, NOT COMBINED WITH EVENING
OPENING, SELECTED CITIES IN ILLINOIS

City, population group	Number closing morning or afternoon	Day selected	Morning or afternoon
Chicago metropolitan area:			
Outlying centers	2	Wednesday	Afternoon
Suburban cities	4	Wednesday	Afternoon
Downstate cities and towns:			
Population more than 30,000	1 *	Wednesday	Afternoon
Population 10,000-30,000	2	Thursday	Morning
Population less than 10,000	1	Wednesday	Morning
	1	Wednesday	Afternoon
	9	Thursday	Morning

* Not all stores close

EXHIBIT 5

TOTAL STORE HOURS PER WEEK, SELECTED CITIES IN ILLINOIS

Hours per week	Chicago metropolitan area			Downstate cities, by population group		
	Down-town Chicago	Out-lying centers	Suburban cities	More than 30,000	10,000 to 30,000	Less than 10,000
46	4	..	..
46½-48	4	2	1
48½-50	1	1	6	2	1	1
50½-52	..	3	1	2	4	2
52½-54	..	14	1	1	2	6
54½-56	..	7	3	..	5	6
56½-58	..	21	..	..	1	9
58½-60	..	23	..	..	..	4
60½-62	..	7	..	..	..	3
62½-64	2
68	..	1	..	..	..	1

EXHIBIT 6

TIME OF DAY WHEN CONSUMERS LAST SHOPPED, AS PERCENTAGE OF TOTAL IN ECONOMIC GROUP, BLOOMINGTON-NORMAL AND DANVILLE, ILLINOIS

Economic Group	Morning		Afternoon		Evening	
	Bloom-ington-Normal	Danville	Bloom-ington-Normal	Danville	Bloom-ington-Normal	Danville
A	60	27	40	73	0	0
B	36	34	58	66	6	0
C	31	41	60	56	9	3
D	30	22	57	78	12	0

ACTION NEEDED

On the basis of the information contained in these tables, what should be the manager's recommendation to the local merchants? Should he recommend particular store hours to the merchants? If so, which hours, and why? If not, what additional data should he recommend be obtained on the subject? Why should these data be obtained, and how?

CASE 6—ANALYSIS OF PRICE AND INCOME DATA

BACKGROUND

Brown Brothers was a long-established, exclusive men's apparel store somewhat on the famous Brooks Bros. model. For generations it had catered to a select clientele of professional men, business owners, and business executives. The store enjoyed great prestige in its area. It also had, management believed, an exceptionally loyal clientele.

In recent years, however, sales volume had been somewhat disappointing and the profit margin had fallen. Through the urging of a young executive, the store eventually hired a research agency to examine its buying, pricing, and merchandising policies.

STORE POLICIES

The store owners and executives were confident that the store could increase volume at any time by invading the mass market for men's clothing. They had no intention, however, of making any such radical departure from store traditions. The settled policy was to handle only quality clothing and to operate on a full-service, conservative basis. The store had been highly successful over the years in cultivating a particularly desirable segment of the market. It desired only to adapt its policies as might be necessary to maintain its position in this special market.

In characterizing this market, it was estimated that the bulk of business for higher-price lines came from men with incomes of \$11,000 or more per year, and that the bulk of business for the medium-price lines came from men with incomes of at least \$5,000 or \$6,000. (The most recent income data at that time revealed that 24 per cent of families in metropolitan areas of the U. S. had incomes of \$5,000 or more. Six per cent of spending units had incomes of \$7,500 or more.) Because of those incomes, it was assumed that relatively few customers were single men and that most customers were older men.

Despite the high incomes which most customers were believed to have, it was thought that the store was heavily dependent on sales of medium-price lines. As defined by the store, high-price lines for men's suits (excluding summer suits) began at \$95, medium-price lines began at \$65, and low-price lines began at \$45. The division of dollar sales for men's suits was: low-price, 20%; medium-price, 55%; high-price, 25%. In addition, there was a tailoring department offering a wide selection of materials for personally fitted clothes. Volume was not large, however, and the store had placed only five advertisements of tailormade clothes in the past year.

The advertising budget was distributed, with relatively minor exceptions, in proportion to sales volume. The \$65 line of men's suits, for example, got the biggest appropriation. The bulk of expenditures was in newspapers, although all types of media, except magazines and transit ads, were used. It was believed that few men really shop for clothes, their minds having been made up by the time they enter a store. Advertising, therefore, was held to be an important factor in forming customer decisions. To this end, efforts were made to keep the store "in the paper" almost daily, to make advertisements distinctive, to stress quality and style of merchandise, and to avoid bargain appeals.

FINDINGS

A random sample of store customers was selected and personal interviews were conducted. Data from store records also were gathered. Some of these data are contained in the exhibits which follow. These exhibits are shown just as they came from original tabulation without processing, and are therefore not necessarily adapted to the best analysis possible.

ACTION NEEDED

1. How should these data be processed or manipulated for analysis?
2. What other cross tabulations of these data should be made?

MARKETING RESEARCH

EXHIBIT 1

CUSTOMER INCOMES, BY MARITAL STATUS AND AGE

Marital status and age	Income					Total
	Below \$7,000	\$7,000 to \$10,999	Below \$11,000 (Sub-total)	\$11,000 and over	Don't know	
Single men						
21 to 35	42	4	46	14	0	60
36 to 50	8	14	22	6	0	28
Over 50	10	18	28	24	4	56
Don't know ...	3	0	3	0	2	5
Total	63	36	99	44	6	149
Married men						
21 to 35	76	46	122	36	6	164
36 to 50	80	96	176	226	6	408
Over 50	72	84	156	270	28	454
Don't know ...	1	1	2	12	4	18
Total	229	227	456	544	44	1,044
All men						
21 to 35	118	50	168	50	6	224
36 to 50	88	110	198	232	6	436
Over 50	82	102	184	294	32	510
Don't know ...	4	1	5	12	6	23
Total	292	263	555	588	50	1,193

NOTE: Further breakdowns were considered undesirable. Incomes had been gathered by intervals of \$1,000. For all customers the data were: Below \$3,000, 24 men; then in sequence by 1,000's: 30; 66; 88; 84; 80; 62; 51; 70; 50; and 40; then \$13,000 or more, 498; and Income unknown, 50. Less than 2 per cent of the customers were under 21 years of age.

EXHIBIT 2

PLACES AT WHICH CUSTOMERS MADE LAST SUIT PURCHASES,
BY INCOME

Last purchase made at	Income					Total
	Below \$7,000	\$7,000 to \$10,999	Below \$11,000 (Sub- total)	\$11,000 and over	Don't know	
Brown Bros.	90	74	164	196	18	378
Tailor Shop	30	32	62	116	4	182
Other store	168	154	322	251	26	599
Don't know	4	3	7	25	2	34
Total . . .	292	263	555	588	50	1,193

EXHIBIT 3

PLACES AT WHICH CUSTOMERS MADE WINTER SUIT PURCHASES
DURING PAST THREE YEARS, BY INCOME

Purchases in past 3 years at	Income					Total
	Below \$7,000	\$7,000 to \$10,999	Below \$11,000 (Sub- total)	\$11,000 and over	Don't know	
Brown Bros.	136	146	282	283	23	588
Store U	21	29	50	33	5	88
Store V	74	64	138	138	11	287
Stores W, X, Y, Z	21	30	51	49	0	100
Dept. stores	26	23	49	14	4	67
1 other store	83	102	185	183	16	384
2 other stores	16	11	27	42	2	71
3 other stores	1	0	1	6	0	7
Tailors	39	36	75	145	6	226
Don't know	8	1	9	17	0	26
Total . . .	425	442	867	910	67	1,844

NOTE: Because of purchases made by individuals at more than one store, totals exceed the number in the sample.

EXHIBIT 4

**PRICES PAID BY CUSTOMERS FOR ALL WINTER SUITS PURCHASED DURING
PAST THREE YEARS, BY INCOME**

Prices paid	Income					Total
	Below \$7,000	\$7,000 to \$10,999	Below \$11,000 (Sub-total)	\$11,000 and over	Don't know	
Under \$35	14	2	16	4	0	20
\$35-\$44	27	16	43	18	0	61
\$45-\$54	73	38	111	56	6	173
\$55-\$64	106	68	174	104	14	292
Low price	190	100	290	150	20	460
\$65-\$74	108	116	224	144	13	381
\$75-\$84	42	73	115	154	11	280
\$85-\$94	26	44	70	138	3	211
Medium price	148	214	362	314	4	680
\$95-\$104	14	26	40	93	3	136
\$105-\$114	11	10	21	64	0	85
\$115-\$124	1	6	7	56	3	66
\$125-\$134	6	6	12	74	2	88
\$135 or more ..	4	12	16	121	6	143
High price	34	44	78	312	12	402
Don't know	10	7	17	6	0	23
Total ..	382	365	747	782	36	1,565

NOTE: Because some individuals made purchases in a number of price ranges, the subtotals are less than the sum of the persons buying each price line but totals exceed the sample number for the same reason.

EXHIBIT 5

DISTRIBUTION OF CUSTOMERS BY NUMBER AND TYPE OF WINTER SUITS
PURCHASED DURING PAST THREE YEARS, BY INCOME

Type of suits bought and number:	Income					Total
	Below \$7,000	\$7,000 to \$10,999	Below \$11,000 (Sub- total)	\$11,000 and over	Don't know	
Ready-made only						
1 suit	48	17	65	4	9	78
2 suits	52	55	107	57	10	174
3 suits	66	56	122	94	9	225
4 suits	28	29	57	62	1	120
5 suits	13	12	25	39	4	68
6 suits	8	12	20	32	0	52
7 or more	6 ^A	14 ^B	20	30 ^C	6 ^D	56
Ready-made total	221	195	416	318	39	773
Custom only						
1 suit	10	1	11	8	3	22
2 suits	6	4	10	18	2	30
3 suits	6	7	13	25	2	40
4 suits	5	1	6	24	1	31
5 suits	0	1	1	13	0	14
6 suits	2	1	3	19	0	22
7 or more	0	2 ^E	2	12 ^F	0	14
Custom total	29	17	46	119	8	173
Both types						
2 suits	11	6	17	6	0	23
3 suits	4	13	17	35	0	52
4 suits	1	7	8	18	2	28
5 suits	2	6	8	15	1	24
6 suits	0	10	10	20	0	30
7 or more	6 ^G	8 ^H	14	30 ^I	0	44
Both types —total	24	50	74	124	3	201
N.A.	18	1	19	27	0	46
Grand total	292	263	555	588	50	1,193

NOTE: Number of suits in open-end classes: A-46; B-118; C-268; D-54; E-16; F-106; G-48; H-62, and I-284. Breakdowns for purchases of both types of suits: Below \$7,000—42 Ready-made and 48 Custom, total 90. \$7,000-\$10,999—126 Ready-made and 98 Custom, total 224. \$11,000 and over—356 Ready-made and 304 Custom, total 660.

3. In view of the problem of an unexpectedly large open-end class, is the income breakdown used the most feasible?
4. How consistent are, and should be, the findings as to the share of their customers' total suits purchases which Brown Brothers secures as based on last purchase and 3-year-purchase data?
5. What statistical tests of significance might be used on these data? In what way and to what degree are the assumptions made by management about the store's market and the actions of customers proved or disproved?
6. What inferences may be drawn from these data regarding the effectiveness of the firm's merchandising policies?
7. What recommendations might be based on these data?

Part VIII

PRESENTATION AND FOLLOW-UP

The Nature of the Tasks

The bitter truth is that a great deal of marketing research results in little or no action. The reason is that between technical findings and business actions lies a chasm difficult to bridge. How difficult is suggested by the fact that today many research staffs and agencies employ specialists for writing reports. But even an effective report, alone or with an oral presentation, may fail unless presentation is followed up to insure that action is taken or that failure to act is specifically justified.

The major task of presentation is to convey the findings (almost always statistical in nature and often complex) in the simplest, shortest, most persuasive, and most practical manner possible. The language of statistics and research has to be translated into operable terms.

The task of the follow-up is to avoid losing the practical advantages of research because of the pressure of day-to-day activities of busy executives.

The researcher does not bear sole responsibility for insuring that his studies become actions; but his is the principal task.

Working Methods

Presentation. In his interpretation of results the researcher already has considered the problems of the company and the personalities and functions of the executives. In preparing his presentation he, as does every writer, gives special attention to his "audience." The form of his report, as noted below, will depend on this. More directly, he may consult with executives as to findings and possible actions. By formulating possible

alternatives, he can get executives to express their viewpoints as to usefulness of findings and the form in which they are most valuable. This may secure a far more enthusiastic acceptance of findings and recommendations. An alternative is to withhold all findings in order that the final report may be a dramatic surprise.

Most commonly the research findings will be of interest to both technicians and nontechnicians. The marketing research specialist will want to know about sampling methods, the questionnaire used, the supervision of the field staff, statistical manipulations, and other technical details. Moreover, the specialist may prefer to read his findings in technical language. The *technical report* will be addressed to this group as a separate report, or such materials will be included in an appendix to a report.

Research intended to be read by company officials will contain the fewest possible technical details. It will be designed and written to arouse reader interest (without compromising accuracy) by headline-style writing, by liberal use of themes, catchwords, and analogies, and by much graphic illustration. Such a report is called a *popular report*; and research reports intended to be read by the general public are nearly always of this simplified and dramatized type.

Compromise reports, however, are common. These are reports which combine the elements of both technical and popular reports. For example, a summary and recommendation may be popularized, a major findings section may be somewhat technical, and appendices may contain highly technical details. Sometimes the research staff will present only general findings and conclusions to company executives, further details and technical aspects being held ready should any executive request additional data or proof.

The translation of statistical data into the language of business is a major challenge. The first and most basic step usually is to present statistics in the form of charts and graphs of various sorts. Map and illustrations (particularly pictographs) also aid comprehension by nontechnicians, and add life to a report.

No mechanical devices or tricks, nonetheless, can substitute for clear expression of ideas in words and an appropriate sales or business slant to conclusions. Here, near the end of research, is when a carefully planned beginning pays dividends.

The most useful tool at this stage is an outline. It acts as a guide to the writing and a test of its adequacy, and it offers the readers an index to all materials.

Follow-Up. After the written report has been submitted, often at the time of an oral presentation that highlights findings and utilizes visual methods to a great extent, it is necessary to follow up the report.

Most commonly this is the function of the research director. He performs it often by talking informally with executives concerned in the days and weeks following submission of the report. He relies on his knowledge of the company and his close friendship with executives to get action. Sometimes a special assistant of the company president will be charged with responsibility for securing adequate consideration of a report by executives. Occasionally, as in new product development, the research staff may be given direct responsibility to put their recommendations into action. A research agency sometimes is asked, also, to put recommendations into action; but usually reliance is put on effective presentation plus informal follow-up procedures. A few companies set deadlines, dates on which executives must act or give reasons for not acting.

Special Difficulties

The unsolved problem, both in theory and application, of the proper borderline between research as a staff function and the line functions of management creates many difficulties. Not many years ago most marketing research was expected to stop short at fact finding. Repeated failures of executives (either because of unwillingness, inability, or lack of time) to interpret findings and formulate business actions gradually has extended the research function. Almost universally (for all but the simplest of studies), researchers are now expected to reach statistical *decisions* and to draw *conclusions*. In many, if not most, cases they are expected to formulate specific *recom-*

mendations for action. (As has been noted, they even may be asked to supervise the execution of their recommendations.)

It is clear that marketing research is a service or staff function. Yet it is generally believed that the researcher capable of formulating a business problem for study also is capable of understanding operating problems. He should not order or command; but he is capable of formulating realistic alternative lines of action and of recommending ideas and actions. What should be done in an individual case depends on the researcher's abilities, his relations with and understanding of the company, and the executive personalities concerned.

Another difficulty is that the technical training needed and the literary skill required may not be found in one man. A report, therefore, may have to represent the combined efforts of several persons.

A further difficulty is that researchers often fail to leave enough time for this report-writing and presentation phase. All too often careful fact finding is followed by hasty report preparation to meet a deadline.

The Cases in this Part

Case 1, "Preparation of Chart Material," raises the problem of translating common forms of statistical data into more effective presentation forms.

Case 2, "Preparation of a Retail Trade Area Map," is a more specialized problem which involves far-reaching conclusions and preparing both a map and a brief report from the data given.

Case 3, "Consumer Reaction to Self-Service Meat Marketing," poses the problem of rewriting certain introductory and technical materials into a report form so that it will be suited to other, nontechnical readers.

Case 4, "Report on Branch Store Markets and Policies," is offered primarily for evaluation, the criticism being made of many possible aspects of report writing. Opportunity also is offered for consideration of graphic presentation and the preparation of an oral presentation.

Case 5, "Follow-Up on Product Performance Studies," reviews the situation faced by a company's research staff in securing action and poses problems of evaluation or performance for many aspects of follow-ups.

- AMERICAN MARKETING ASSOCIATION. *The Technique of Marketing Research*. New York: McGraw-Hill Book Co., Inc., 1937. Chapters 17 and 18 contain a fairly conventional treatment of the presentation and follow-up on research results.
- BRADFORD, E. S. *Marketing Research*. New York: McGraw-Hill Book Co., Inc., 1951. There is an especially good section on graphic presentation in Chapter 13.
- BROWN, L. O. *Marketing and Distribution Research*. New York: The Ronald Press Co., 1949. Chapter 25 gives an excellent discussion of the primary principles of reporting on research work.
- BUREAU OF THE CENSUS. *Manual of Tabular Presentation*. Washington, D.C.: U. S. Government Printing Office, 1949. An outline of theory and practice in the presentation of statistical data for publication in tables.
- COUTANT, F. R. "Market Research Must Hold Executive Attention." *Journal of Marketing*, X (January, 1946), pp. 288-89. The author shows the importance of research to top management.
- FROTHINGHAM, R. S., et al. "Preparation and Presentation of the Research Report." *Journal of Marketing*, XIII (July, 1948), pp. 62-72. A detailed treatment of the ways in which reports should be prepared for various audiences.
- HALL, R. O. *Handbook of Tabular Presentation*. New York: The Ronald Press Co., 1946. This is considered the standard work related to the preparation of tables.
- HEIDINGSFIELD, M. S., and A. B. BLANKENSHIP. *Market and Marketing Analysis*. New York: Henry Holt & Co., 1947. The latter half of Chapter 11 is devoted to a brief discussion of the form of the report, its presentation, and the follow-up that is necessary.
- LUCK, D. J., and H. G. WALES. *Marketing Research*. New York: Prentice-Hall, Inc., 1952. Chapters 15 and 16 give details of the outline of report writing as well as a variety of ways in which the findings can be put to work.
- LORIE, J. H., and H. V. ROBERTS. *Basic Methods of Marketing Research*. New York: McGraw-Hill Book Co., Inc., 1951. Chapter 19 shows how marketing research can be coordinated with the needs of management.
- SAUNDERS, A. G., and C. R. ANDERSON. *Business Reports*. New York: McGraw-Hill Book Co., Inc., 1941. A good standard reference on the preparation of business reports of all types.
- SESSIONS, R. E. "A Management Audit of Marketing Research." *Journal of Marketing*, XIV (January, 1950), pp. 563-71. Discussion of the ways in which marketing research keeps pace with company needs, the administration of research that can be made to set the pace for operating efficiency, and the ways in which the research staff can keep in touch with the realm of ideas which determine sales growth and future market position for the company.

Part VIII Cases

CASE I—PREPARATION OF CHART MATERIAL

BACKGROUND

A large publishing house had collected some income and population data through its Division of Marketing and Research. These data are shown in table form in Exhibits 1-5.

EXHIBIT 1

INCOME DISTRIBUTION OF U. S. FAMILIES, 1939 AND 1947

Income group	January 1, 1939		January 1, 1947	
	Number	Per cent	Number	Per cent
A. \$5,000 & over	1,360,000	4.0	3,721,000	9.6
B. \$3,000-\$4,999	2,168,000	7.7	7,056,000	18.3
C. \$2,000-\$2,999	6,324,000	18.6	11,815,000	30.6
D. \$1,000-\$1,999	12,410,000	36.5	10,904,000	28.2
E. Under \$1,000	11,288,000	33.2	5,113,000	13.3
Total	34,000,000*	100.0	38,609,000*	100.0

* U. S. Bureau of the Census estimates

Source: Division of Marketing and Research of Macfadden Publications, Inc.

EXHIBIT 2

INCOME DISTRIBUTION OF URBAN FAMILIES, BY OCCUPATION, 1936 AND 1946 (In percentages)

Income	1936		1946	
	Wage earner	White collar	Wage earner	White collar
A. \$5,000 & over .	0.1	3.6	1.5	8.4
B. \$3,000-\$4,999	1.6	5.9	10.8	8.5
C. \$2,000-\$2,999	6.2	11.1	22.1	11.5
D. \$1,000-\$1,999	24.4	18.8	16.1	10.3
E. Under \$1,000	20.5	7.8	7.9	2.9

Source: National Survey of Liquid Assets, Bureau of Agricultural Economics. Division of Marketing and Research of Macfadden Publications, Inc.

EXHIBIT 3

INCOME DISTRIBUTION OF U. S. FAMILIES, FOR SELECTED YEARS
(Total families = 100%)

Year	Upper (over \$5,000)	Lower (under \$2,000)	Middle (\$2,000- \$4,999)	
1896...	1.9%	96.3%	1.8%	
1910...	1.7	92.1	6.2	—1 out of 10 families had more than \$40 a week
1921...	2.5	86.4	11.1	
1929 ..	8.2	59.5	32.3	—4 out of 10 families had more than \$40 a week
1933 ..	3.3	82.0	14.7	—2 out of 10 families had more than \$40 a week
1/1/39	4.0	69.7	26.3	
1/1/40	4.1	68.8	27.1	
1/1/41	4.4	66.9	28.7	
1/1/42	5.7	58.5	35.8	
1/1/43	7.6	48.7	43.7	
1/1/44	8.3	43.6	48.1	
1/1/45	8.8	42.7	48.5	
1/1/46.	8.9	42.7	48.4	
1/1/47	9.6	41.5	48.9	—6 out of 10 families had more than \$40 a week

Sources: Charles Spahr, *The Present Distribution of Wealth*; W. I. King, *The Wealth and Income of the People of the United States*; National Industrial Conference Board, unpublished studies; Brookings Institution, *America's Capacity to Consume*; Financial Survey of Urban Housing; National Resources Planning Committee; Macfadden Publications, Inc., Division of Marketing and Research.

THE PROBLEM

The Marketing and Research Division of the publishing house wanted to prepare a popular report that would include tables, charts, and graphs. The objective was to keep the written copy to a bare minimum and keep reader interest high by using a number of unique and pleasing charts and graphs.

ACTION NEEDED

From the tables given in this Case, select those suitable for preparing charts and graphs. Indicate your reasons for this selection. Then prepare the charts and graphs, and write out a statement giving the reasons for your choice of the various types of charts and graphs you have prepared.

MARKETING RESEARCH

EXHIBIT 4

NATIONAL INCOME PAYMENTS, BY DISTRIBUTIVE SHARES, FOR
SELECTED YEARS

(Dollar amounts in billions)

Year	Total income payments	Salaries and wages	Entrepre- neurial income	Dividends, interest, and net rents	Other income payments
1910	\$ 31.1 100.0%	\$ 14.8 47.7%	*	\$15.2 52.1%	*
1929	\$ 82.6 100.0%	\$ 52.5 63.5%	\$13.6 16.5%	\$15.3 18.5%	\$1.2 1.5%
1939	\$ 70.8 100.0%	\$ 42.2 59.6%	\$11.2 15.8%	\$11.2 15.8%	\$6.2 8.8%
1940	\$ 76.3 100.0%	\$ 46.5 60.9%	\$12.0 15.7%	\$11.5 15.1%	\$6.3 8.3%
1941	\$ 92.8 100.0%	\$ 58.2 62.7%	\$15.8 17.0%	\$12.5 13.5%	\$6.2 6.7%
1942	\$117.3 100.0%	\$ 77.6 66.1%	\$20.6 17.6%	\$13.1 11.2%	\$6.0 5.1%
1943	\$143.1 100.0%	\$ 99.2 69.3%	\$23.5 16.4%	\$14.0 9.8%	\$6.4 4.5%
1944	\$156.6 100.0%	\$108.9 69.6%	\$24.1 15.4%	\$15.1 9.6%	\$8.5 5.4%
1945	\$160.8 100.0%	\$110.2 68.6%	\$25.6 15.9%	\$16.3 10.1%	\$8.7 5.4%
1946	\$165.0 100.0%	\$105.2 63.7%	\$30.2 18.3%	\$18.1 11.0%	\$11.5 7.0%

* Information not available in comparable form.

Sources: U. S. Department of Commerce; W. I. King, *The Wealth and Income of the People of the United States*.

EXHIBIT 5

CIVILIAN LABOR FORCE, 1940-47

Year	Civilian labor force (millions)	Number employed (millions)	Per cent of labor force employed
March, 1940	53.0	45.1	85.1%
March, 1941	52.0	46.0	88.5
March, 1942	53.5	50.2	93.8
March, 1943	52.3	51.2	97.9
March, 1944	51.4	50.5	98.2
March, 1945	55.7	53.0	95.2
March, 1946	55.2	52.5	95.1
March, 1947	58.4	56.1	96.1

Source: Bureau of the Census, U. S. Dept. of Commerce.

CASE 2—PREPARATION OF A RETAIL TRADE AREA MAP

BACKGROUND

For many years researchers in the retail field have attempted to develop formulas, or "laws," to account for the division of trade between market areas. The first "law of retail gravitation" was proposed by William J. Reilly in 1931 and purported to divide trade from an intermediate town between two neighboring cities according to the following formula:¹

$$\frac{B_a}{B_b} = \left(\frac{P_a}{P_b} \right) \left(\frac{D_b}{D_a} \right)^2,$$

where

B_a is the proportion of trade gained by city A from the intermediate town,

B_b is the proportion gained by city B,

P_a is the population of city A,

P_b is the population of city B,

D_b is the distance between city B and the intermediate town, and

D_a is the distance between city A and the intermediate town.

The boundary of a city's trade area in relation to another city was determined from the following formula, which was developed at a later date:

$$\text{Boundary for city B in miles} = \frac{\text{Miles between cities A and B}}{\sqrt{1 + \frac{P_a}{P_b}}},$$

where B is the smaller city.

¹ W. J. Reilly. *The Law of Retail Gravitation*. (New York: William J. Reilly, 1931).

A formula for estimating the loss of trade of one town to another was developed by P. D. Converse in 1949, as follows:²

$$\frac{B_a}{B_b} = \left(\frac{P_a}{P_b} \right) \left(\frac{4}{d} \right)^2,$$

where

B_a is the proportion of trade gained by town A, the outside town,
 B_b is the proportion of trade retained by town B, the home town,
 P_a and P_b are as before, and
 d = distance between towns A and B.

The integer, 4, in the above formula is denoted by Converse as the "inertia-distance factor of trading at home" and was derived on the basis of a series of studies of towns in Illinois with a population over one thousand.

It should be noted that all these "laws" were formulated primarily with fashion, or shopping, goods in mind; that is, apparel, household furniture and furnishings, and similar items.

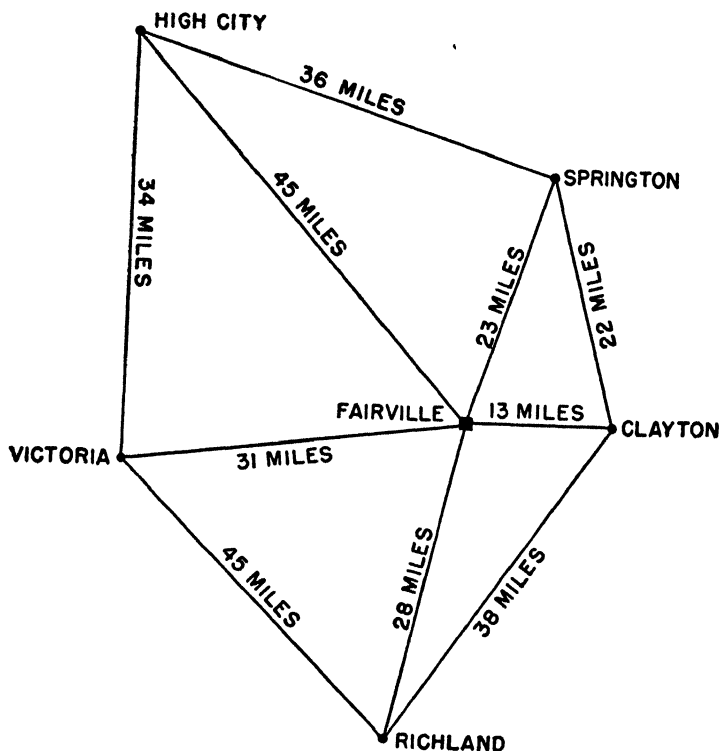
THE PROBLEM

In 1951 the merchants of Fairville, a large town in the Middle West, called in a researcher to aid them in analyzing their trade position in relation to other towns in the area. What the merchants wanted were some benchmarks against which they could evaluate the effectiveness of their merchandising methods. They planned to evaluate these methods by means of a series of retail trade surveys. In effect, they wanted a map delineating the "normal" boundaries of their trade area and giving some idea of the expected division of trade between them and each of the neighboring towns.

DATA AVAILABLE

A map of the towns in the vicinity of Fairville is shown on page 295, together with the distances in road miles between

² P. D. Converse. "New Laws of Retail Gravitation," *Journal of Marketing*, XIV (October, 1949), pp. 379-84.



neighboring towns. The population of each of these towns in 1950 was as follows:

Fairville	17,500	Springton	3,000
Richland	6,900	High City	64,000
Clayton	9,200	Victoria	6,200

The materials by Reilly and Converse cited above are highly pertinent to this problem.

ACTION NEEDED

Three things are needed:

1. A retail trade area map for Fairville outlining the boundaries of its trade area as based on the formulas of retail gravitation.

2. Estimates of the division of trade between Fairville and each of its neighboring towns, other things being equal.
3. A brief memorandum to the merchants of Fairville outlining the uses and limitations of these data and of the retail trade area map.

CASE 3—CONSUMER REACTION TO SELF-SERVICE MEAT MARKETING¹

BACKGROUND

The following are excerpts from a study that was made to ascertain the reaction of consumers to self-service meat marketing. The sections of this study that have been reproduced here are taken from a thesis entitled "Economic Analysis of Self-Service Meat Marketing," by William R. Bennett.

HISTORY OF SELF-SERVICE RETAILING OF MEAT

The first attempt to prepackage meat seems to have been that of the Hudson's Bay Company in Winnipeg, Manitoba, Canada, in 1923.² Meats were wrapped in cellophane and sold by service clerks. Five years later Mr. Donaldson, who had conducted the above operation, convinced Mr. Frank Parsloe of the H. C. Bohack Company, Brooklyn, New York, of the feasibility of the plan, and by 1929 the Bohack Company was serving prewrapped meats to fifty stores from a central plant. The project was abandoned because of improper refrigeration and display equipment, lack of meat knowledge by clerks, inadequate wrapping materials, and a high percentage of returns to the central plant.³

Around 1925 the first transparent flexible film package of meat made its appearance. It was not suitable for self-service selling because it was not moistureproof and because of the high humidity of self-service cases. The wrap did give packer identification, however.⁴

In the early thirties, the Atlantic and Pacific Tea Company conducted

¹ Based upon a study prepared by W. R. Bennett as a doctoral dissertation, on file at the University of Illinois library.

² *Meat Merchandising—Self-Service Meat Manual*. St. Louis: Meat Merchandising, Inc., 1949, p. 9.

³ *Ibid.*, p. 10.

⁴ N. Allen. "The Latest 'Know-How' in Prepackaging of Meats," *Super Market Merchandising*, XV (June, 1950), pp. 127-31.

experiments with prepackaging but discontinued them because of the above difficulties.⁵

The Hy-Grade Food Products Corporation conducted experiments in 1933 by putting precut meat into cardboard bread trays and overwrapping them with cellophane on a bread-wrapping machine. The project was also abandoned because of technical and managerial difficulties.⁶ In 1935 the Loblaw chain in Canada tried a fixture with a display top and stock drawers below, but the refrigeration was inadequate.⁷ By 1938 the Sanitary Grocery Company of Washington, D.C., had developed a rolled roast wrapped in cellophane and the idea was copied by other chains and independents. Legs of lamb were next wrapped in cellophane and placed on top of the meat cases. In 1940, chickens were prepacked and sold from a service case.⁸

The first self-service case (an old fish and delicatessen case) went into operation at the A & P store at 467 Center Street, Jamaica Plains, Massachusetts, on February 4, 1941, and 1,400 packages were sold from the case in the first week of operation. A 30 per cent increase in volume was experienced without additional labor cost.⁹ In 1941 Empire Markets opened a self-service meat department in Schenectady, New York; in 1942 Caler's opened a market in Los Angeles, and by the end of 1944 there were ten 100 per cent self-service meat departments in operation in the United States.¹⁰ By April 1 of 1949, there were in the United States 878 self-service meat departments in operation. The A. C. Nielsen Company reported 7,754 stores on a partial self-service basis as of the same date.¹¹

It should be mentioned here that before self-service meat marketing could develop, two technological improvements had to be made, innovations themselves: the development of a satisfactory wrapping material for fresh meat, and the development of a satisfactory meat case for self-service. It is interesting to note that refrigeration men did not believe that such an improvement was possible at the time they were assigned the problem.¹²

⁵ *Meat Merchandising—Self-Service Meat Manual*, p. 10.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*, p. 11.

⁹ *Ibid.*

¹⁰ *Ibid.*, p. 12.

¹¹ *Prepackaged Self-Service Meats—1949 Report*. Chicago: Armour & Co., 1949, p. 3.

¹² *Meat Merchandising—Self-Service Meat Manual*, p. 11.

THE CHAMPAIGN-URBANA SURVEY

Limitations of Surveys and Reasons for Present Study

Analysis of the degree of difference in attributes of households accepting the innovation from those not accepting it is not found in the above studies.¹³ Knowledge of attributes associated with acceptance (and rejection) of the innovation should be useful to retailers who are faced with the problem of whether or not to convert to self-service, to students of marketing who are interested in the study of innovations by marketing institutions, and to students of economics interested in the theory of innovation.

The above surveys are concerned primarily with whether or not consumers approve the innovation, and what they like or dislike about it. Inferences regarding the population cannot be made on a probability setting on the basis of any of the above surveys because the universes were not defined and the samples were not random.

A number of possibilities were open to the author in a study of consumer reaction to the innovation. One approach would have been to study households before and after the installation of the innovation in the community to detect changes in buying patterns and consumption. The investigator would have been compelled to find a community in which a meat department was being converted to self-service, survey a random sample in the store's trade area several weeks before the introduction of the innovation, several weeks after conversion, and again several months later without respondents' knowing they would be surveyed again. Unless one could find a neighborhood store being converted, the bounding of the trade area might be a major problem. For example, one large food store in Champaign-Urbana has a very large country trade and comparatively little town business. Such a study would probably necessitate extensive recording of meat purchases by households and would extend over a rather long time. Because of these problems, the approach did not appear to be feasible. A study of attributes required the completion of only one questionnaire, did not require either memory or recording of meat purchases, and could be done with the resources and facilities at the disposal of the author.

¹³ For purposes of this study, a household is assumed to have accepted the innovation if half or more of the meat purchased by the household is from a self-service meat department. A household is a spending unit (for purposes of food buying) that has cooking facilities. Households with over three boarders were not included in the sample.

Definitions

For purposes of clarity it is necessary to define terms that will be used throughout the account of the results of the Champaign-Urbana meat survey.

A *self-service meat department* is one in which all meat is cut, wrapped, heat-sealed, weighed, labeled, priced, and sold from an open display case. The term "self-service store" is used interchangeably with "self-service department."

A *service or conventional meat department* is one in which each customer is served by a clerk who weighs, prices, and wraps each order.

A *partial self-service meat department* is one in which fresh meats are sold by the conventional method, other meats being sold self-service. The partial self-service meat department is grouped with the conventional departments for purposes of this study, since the main interest of the study is in the sale of fresh meats self-service.

The term *town or city* refers to the area within the city limits of both Champaign and Urbana.

A *call* was a visit to a household.

An *interview* was a conversation with a representative of a household resulting in the completion of Question 1 on the schedule.

A *nonusable schedule* was a schedule discarded because of inconsistencies.

A *refusal* was a call by an interviewer resulting in the interviewee refusing to answer Question 1 on the schedule.

A *final refusal* was a call by the author resulting in the interviewee's refusal to answer Question 1 on the schedule.

A *callback* was the term used to designate an interview made on the third or subsequent call.

An *at home* was the term used to designate an interview made on one of the first two calls.

Fresh meat refers to fresh beef, pork, lamb, and veal. Cured or processed meats are not included.

Most means over 50 per cent.

Community Chosen for Survey

The community chosen for the survey, Champaign-Urbana, Illinois, twin cities of 62,404 population (1950),¹⁴ is located in east central Illinois and is the home of the University of Illinois. Five self-service meat departments, operated by two chains, are located in the town, but

¹⁴ Champaign-Urbana *News-Gazette*, June 15, 1950, p. 3.

they are grouped in such a way that most of the city (74 per cent of the total number of blocks) is more than five blocks from a self-service store, making it possible to study the effect of distance from the self-service meat department upon acceptance of the innovation. A good distribution of households among geographic areas was obtained through random selection from the population.

Since the stores are somewhat different in layout and location, one can study criticisms and good points of the innovation mentioned by the customers of the stores to determine if these differences influence consumer attitudes. Conventional meat departments of comparable size and handling meats of comparable quality are located within three blocks of three of the stores and small neighborhood stores are near the other two. Champaign-Urbana was also desirable because of the use of student interviewers.

Four of the self-service departments in the town were converted in a six-month period in 1949. This limits the study of the effect of time on acceptance of the innovation. Dates of conversion of the Champaign-Urbana self-service meat departments are shown in Exhibit 1.

EXHIBIT 1

DATES OF CONVERSION OF SELF-SERVICE MEAT DEPARTMENTS, CHAMPAIGN-URBANA

Store	Location	Date of Conversion
A	Champaign	May, 1949
B	Champaign	December, 1947
C	Champaign	October, 1949
D	Urbana	October, 1949
E	Urbana	November, 1949

Techniques Used

In order to be able to state conclusions in probability terms, a random sample of 447 households in Champaign-Urbana was interviewed. The sample was designed so that the standard error would not exceed 2.5 per cent. A detailed account of the construction of the questionnaire, the use of a pilot survey, the design and selection of the sample, the reliability of results, the treatment of nonresponses, the time and duration of the survey, the techniques of interviewing, and the handling of tabulation is included as a part of the Appendix to the original study.

ACTION TO BE TAKEN

1. How would such materials be presented in an introduction to an article for *The Journal of Marketing*? Write this introduction.
2. How would such materials be incorporated into a report designed for business executives of a chain store organization?
3. How would such materials be handled in a report intended for the general public?

CASE 4—REPORT ON BRANCH STORE MARKETS AND POLICIES**BACKGROUND**

The findings of a study of branch store markets seemed most important in terms of the basic policies pursued by the department store for operating its branches. The basic theme of the report, therefore, was the adaptation of these policies to the number, types, and behavior of the people who comprised the markets for the branches.

Consultations with the director of the store's research staff during the drafting of the report encouraged the research group to believe that even a lengthy report would get a full reading. It was decided, however, to withhold findings until an oral presentation could be made. This would be done at a meeting of the operating committee (including all top executives of the store), which the president and the director of research also would attend. At this meeting, executives would be given a copy of the written report.

EXCERPTS FROM A FINAL DRAFT OF THE WRITTEN REPORT

Shown below are excerpts from the final draft: the table of contents (excluding Tables 16 to 37), purposes, summary and recommendations (excluding the sections on lower-price lines, special study for Branch B, and advertising policy), and a sample page from the major findings and from the statistical tables sections.

EXHIBIT 1

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I—PURPOSES

When first discussed, in September, the general purpose of this study was "to analyze such customer actions and purchase patterns as are revealable in our credit records in order to secure information of value in merchandising and promotional activities." (The possibility of extending any study by a survey also was noted.) Six specific store problems were listed under this general purpose.

A statement of proposals was submitted to each member of the operating committee. Each voted that Problem 6 was "both interesting and valuable." The wording voted on was:

Geographical Distribution of Business. To analyze customer patronage at the branches and Philadelphia store to discover interrelationships of business by types of customers on purchases. Objectives: use in credit solicitation, advertising coverage in branches, special promotional or merchandising problems.

The discussions held later with store executives, plus published data and interviews conducted with housewives who patronized branch stores, revealed these problems:

- Almost no factual data on branch *customers* exist. It is not even possible to determine their numbers without a laborious search of microfilm records over many months. (This not only greatly increased the difficulties of sampling the records but also forced the gathering of much background data before specific issues even could be isolated.)
- A number of branch policies depend primarily on internal operating economies, but depend also on important, untested *assumptions*

about customers and their actions. For example (the characterization here is highly simplified):

- A. Centralization of buying; of receiving, checking, and marketing; of promotion; of credit operations, and so forth, provides large operating economies. The resulting uniformity of branch and parent offerings, it is *assumed*, is not an important restriction on sales because: (1) the markets are homogeneous, (2) most branch patrons are also patrons of the parent store, (3) customers expect branches to carry "everything," even if in limited assortments, and (4) for furs, furniture, and other shopping lines most branch patrons will come to the parent store in the downtown shopping center.
- B. An outstanding exception to uniformity, the absence of basement operations in the branches, is necessary because of lack of space and because (assumption) the higher-income suburban patrons have little interest in these price lines.
- C. Another exception to uniform offerings, the almost total lack of special store-wide promotions in the branches, is necessary because of the high cost of processing small lots and transporting sale merchandise to and from the branches. It is justified also (assumption) because most branch patrons are less salesminded and because traffic at the parent store is more necessary and more difficult to develop.
- D. Newspaper advertising by the present store (with by-lines and other devices to show availability of merchandise at the branches) also promotes branches. Little individualized branch advertising in branch areas is needed.

The final purposes, therefore, were established as being:

- 1. To gather facts on the shopping actions of branch patrons relevant to the problems and assumptions noted.
- 2. To assess branch operations in an effort to uncover *opportunities* for increased volume (without losing operating economies) through better adaptation to market realities.
- 3. To provide a firmer basis for planning future branch store expansions.
- 4. To test the feasibility of using credit records primarily, or even exclusively, for research of branch problems.

Special Note: No attempt has been made to analyze transaction or sales data as usually gathered, whether by departments or otherwise. Instead, an effort has been made to bring new facts to light. The temptation to pour the new wine of facts about customer actions into the old bottles of sales analysis has been resisted. The primary value of

customer data is the new insights provided. Although costs of operation and sales volume by departments and lines have not been ignored, the emphasis of this study lies on *people* and their *shopping* actions.

II—SUMMARY AND RECOMMENDATIONS

That central city stores, although increasing in dollar sales, are getting a smaller and smaller share of total business has been established many times. Indeed, this fact has been a strong impetus to the branch store movement. It is highly probable that this relative decline of downtown department stores will continue.

In short, the great bulk of future increases in sales must come from branch stores.

Markets also are *people*. The relation of this simple fact to branch store operations may have been neglected. After all, little factual information on suburban purchasers as people has been available and relatively little attention is given to it.

Store records, for example, indicate that the *people* who patronize the two branches studied are responsible for about 35 per cent of total business. With the addition of a third branch the proportion certainly will rise to about 50 per cent. Not *at* the branches. No. But markets *are people*.

The basic underlying trends are for these *people* to prefer the suburbs over downtown Philadelphia for shopping and to increase their suburban purchases. (They already spend more in the branches than they do in the main store downtown.) Thus, these people represent exceptional opportunities for increased branch business and for cultivation of their business *through their relations with the branches*. The implications of markets as people, in fact, run far ahead of current dollar sales figures.

The Basic Policy of Uniformity

The findings of this study fully support the basic policy of branch operations.

Not that branch patrons are entirely like nonbranch patrons. Opportunities to differentiate, or individualize, children's wear, sportswear, or other branch departments, or to sell proportionately more of the same goods in some price lines and categories unquestionably exist. And such problems as parking are far different. Fundamentally, however, the *markets* are highly similar.

In fact, the great majority of all branch patrons also are patrons of the main store (and patrons in large part for the same things offered them in

branches). Based on the facts of the market found, there seems every reason to continue the policy of making branches duplicates, or counterparts, in all essential ways of the main store.

The only danger suggested by this policy investigation is that the main store may dominate policies sometimes for its own good but not for the good of the entire operation. Adjustments of operations should be adjustments to the total market. Uniformity which lacks this emphasis may result in failure to realize branch potentials.

Exception to Basic Policy—Branch Sales Events

In fact, the danger just noted seems present now in relation to branch sales events. Present policy may be holding present costs in line, and protecting main store traffic somewhat, but it is at the cost of neglecting some genuine opportunities to increase branch business. The assumption now made that branch patrons (and potential branch patrons) are not as interested in sales as other people is erroneous. The self-generation of branch traffic because of convenience also can be doubted. The majority of branch customers visit the branches *less* than once a month.

Store records show that, on a credit basis, branch patrons attend as many main store sales events as do other customers. They also report attending sales at other downtown department stores, though proportionately less often than nonbranch customers.

Approximately two thirds of branch patrons report that they do attend sales events at suburban stores. By their answers the great majority of branch customers and potential branch customers desire branch sales events.

During one event, lasting fifteen days, the one time when customers had a choice of branch or downtown sales, they showed a great preference for the branch. Store records show that during this period 81 per cent of Branch A patrons patronized (for credit) only the branch, and 83 per cent made more than half their dollar expenditures there. This factual test clearly indicates high potential of branch sales.

Nor is this all. The evidence indicates that not only do branches develop *plus* business but also *extra plus* business, some of it from regular credit customers, but much of it from otherwise inactive credit customers or from people without credit accounts. (Twenty-seven per cent of persons whom the records show made no purchases report attendance at sales events.)

Moreover, expecting customers to come to the main store when the branches do not have sales is risky. Although no absolute proof is

possible with the data gathered, there are many indications that competing downtown stores siphon off much of this business. (For example, as many patrons of Branch A report attending sales events during 1952 at sales events of competing department stores downtown as report having gone to the main store sales events. The same is true for patrons of Branch B.)

We conclude from the market data that branch patrons, and potential branch patrons, very definitely desire branch sales events.

We recommend that more special sales events for branches be planned. Despite the handicap of added expense, it is probable that such events can be made profitable. In addition, such sales should do much to increase the number of patrons and the amount of patronage during regular selling days. Traffic for branch sales events also is the easiest to develop of all store traffic.

Future Branch Policy

Branch A, in particular, has won for itself a considerable measure of "market independence." Nineteen per cent of its customers do not patronize (for credit) the parent store. It gets 61 per cent of the business it divides with the parent. It gets more than half of all store business in its area. Its customers as a group certainly do not patronize it merely for convenience goods or fill-in items. And if the mail, telephone, and basement sales of the parent are eliminated, it "competes" far more strongly with the downtown store than even these figures indicate. Moreover, much branch business is plus business—volume that the parent store itself could never secure.

These facts indicate the desirability of a policy sufficiently flexible to allow a branch to differentiate its offerings to realize sales opportunities in its "own" market. These facts also suggest the merit of a policy which would provide for a considerable amount of separate branch promotion, a direct cultivation of what is in one true sense its own, separate market.

The fact remains, nevertheless, that branch and parent customer groups are interlocked or overlapping. Exclusive customers of either are not as valuable as "mixed" patrons. The success of the enterprise rests on a successful joint cultivation and servicing of customers. To be sharply remembered, however, is the fact that branches generate most of their own business and do not steal it from their parent. Market facts also prove that you cannot successfully play battledore and shuttlecock with customer habits. If not offered certain merchandise or services in one location, customers will not flock automatically to the other.

These facts and considerations suggest that a basic policy of "chain store" or centralized operations is essential. Acute as some organizational problems may become in the future, branch autonomy would seem a poor remedy indeed. The danger for policy probably lies in the dominance of branch activities by executives most of whom are also and predominantly concerned with the welfare of the parent operations.

The lack of basement operations, or lower-price lines, in the two branches studied apparently is causing some loss of potential volume. Some remedy, we believe, is needed for Branch B. The market facts gathered, however, may be most important in planning future expansion. Both branch areas, and especially that of Branch A, are unusual. We are convinced that in many areas in which the store might open a branch, genuine opportunities for true basement operations exist. The opening soon of a competitor's branch with a basement should be watched closely. The expansion of suburban areas and the dilution of incomes in them makes less and less the opportunity of "aristocratic" branches to realize true market potentials.

Use of Credit Records for Branch Store Research

The facts about customer actions which are *buried* in the credit records of the store are such as big manufacturers pay many thousands of dollars for each year—through consumer panels, store audits, and other research. That these data can be valuable in assessing branch operations and policy is, we trust, demonstrated by the small example of research possibilities covered by this study.

We recommend establishing a continuous branch study based on such credit records. We do not recommend, however, that the methods used here be repeated.

First, because it was impossible to identify branch patrons, our sample included much deadwood and included far too many nonbranch patrons. Samples built up from branch sales slips or current billings would result in a great reduction in these wastes in time and money.

Second, the search of microfilms for data is not recommended. This digging backward into the past is exceedingly laborious, time consuming, and—therefore—relatively costly. Once a sample has been chosen (with means of keeping it up to date), methods can be established for pulling out data at little expense during the regular processing. This has proved feasible under regular billing methods and, undoubtedly, could be adapted to cycle-billing methods.

Third, the objectives of the research done should be pinpointed more than has been possible in this exploratory study. The executives who

voted that the problem of "geographical distribution of customers" was "both valuable and interesting" found it difficult, understandably, to cite specific facts wanted or specific decisions which depended on specific market facts. Considerably more attention to the "working assumptions" underlying branch operations and policies and their dependence on market situations would greatly increase the value of the research done.

These problems being solved, we would heartily recommend consideration of establishing a continuing "panel" based on the regular flow of data on customer purchases. Such a project need not be costly; but it would present to executives basic facts about customers of value in assessing current operations and in planning future moves.

Facts Gathered

Facts as facts are presented in the statistical appendix to this report. Our interpretation of them is presented partly in this appendix, but largely in this summary and in the section on major findings which follows.

FROM MAJOR FINDINGS: *How "independent" or "interdependent" are the markets of branches and the main store?*

Department stores have huge trading areas. In Philadelphia they get about half of all business from customers living outside the city and county of Philadelphia. Their branches, as in this case, are located well within the trading area of the parent.

A basic problem of branch operation, therefore, is the separation of branch customer groups from parent store customers and the ways in which customers patronizing both divide their patronage. The question underlies policies of centralized and uniform operations and decisions as to the promotional and merchandising emphasis given to branches.

Store records reveal its branches had relatively few credit patrons who are not also credit patrons of the main store:

Exclusively Branch Patrons		
Branch A	—	19%
Branch B	—	13%

Store records reveal, however, that of all credit expenditures by patrons of the branches, the branches get the major share:

Percentage of Branch Patrons' Credit Expenditures at Branches

Branch A	—	61%
Branch B	—	55%

Although a strong showing for the branches, these figures actually understate the true "competitive" position of branches and the main store, for the parent gets much business from branch patrons not available to the branches themselves.

This extra business includes mail and telephone purchases, purchases of basement store merchandise, and purchases of sales merchandise. (During the ten-month period analyzed, there were twenty-two store-wide special sales events at the parents store plus ten additional special basement store sales. When branch business is compared to personal purchases in upstairs departments on regular days, then exclusively branch patrons jump from 16 per cent to 24 per cent of the total (an increase of 50 per cent) and the proportions making more than half of all purchases at the branches jumps from 55 per cent to 66 per cent (an increase of 20 per cent).

Conclusion: Much more important than these facts may be a *point of view*. In any problem of branch *and* parent, or branch *vs.* parent, the tendency certainly is to consider them as about 20 per cent of total business. But branch *customers* as people are responsible for 35 per cent or more of total business. The addition of a third branch unquestionably will mean that customers patronizing only the parent store will account for *less than half* of all business.

This raises no necessary question as to centralized operations. It does suggest a serious danger that policies and activities good for operations of the main store may sometimes be unwisely applied to the branches or forced upon them. Both the facts and the point of view about the importance of branch customers will be helpful in discussing later some apparent opportunities for increased business.

Most noteworthy, perhaps, is that exclusive patrons of branches are seldom more frequent patrons than those who also purchase at the main store in downtown Philadelphia. For the latter as a group, *branch store purchasing represents extra shopping, not a substitute for downtown shopping trips.*

ACTION NEEDED

1. What graphical methods might be employed for this report?
2. What improvements can be made in the report: format, style, themes, and so forth?
3. How should the oral presentation, to occupy about thirty minutes, be made?

FROM STATISTICAL TABLES SECTION:

NUMBER OF DIFFERENT DAYS CREDIT CUSTOMERS PURCHASED AT BRANCHES
BY STORES PATRONIZED *
(In percentages)

Number of different days purchased	Stores patronized			
	Branch A	Branch B	Main store only	Inactives
1 to 3	42	33	43	48
4 to 9	25	32	17	28
10 to 21	26	24	33	15
22 or more	7	11	7	9
Total	100	100	100	100

* From store records of 617 customers, including, however, only thirty customers of Branch B only. Note that, despite a "vocal minority" of branch patrons who when interviewed claimed they were "always running over" to a suburban center, about two thirds of all credit customers bought less than ten times in ten months, or less than once a month. Even if all cash purchases of these credit customers were made on separate days, still less than half would buy oftener than once a month (except for the category of Branch B and main store patrons—estimated at 64 per cent). Also, even if those patronizing branches only one to three times are omitted, to avoid distortion of percentages by occasional buyers, still one half of patrons buy less than once a month.

NUMBER OF DIFFERENT DAYS CUSTOMERS PURCHASED AT MAIN STORE
BY STORES PATRONIZED *
(In percentages)

Number of different days purchased	Stores patronized		
	Branch A and main store	Branch B and main store	Main store only
1 to 3	47	38	39
4 to 9	36	40	40
10 to 21	14	20	18
22 or more	3	2	3
Total	100	100	100

* Based on store credit records for all types of purchases. Since mail and telephone orders are counted, this does not reflect personal visits entirely. It will be noted that more than three fourths of customers purchase less than once a month. Even if all customers patronizing main store only one to three times are omitted, still two thirds are patrons less than once a month. Except for one category (patrons of Branch B and main store), it is noteworthy that *branch visits are more frequent than visits to downtown stores.*

CASE 5—FOLLOW-UP ON PRODUCT PERFORMANCE STUDIES

BACKGROUND

Tabor, Inc., a manufacturer of pharmaceuticals and food products, had by intensive advertising secured a large volume of sales for a personal-use product.

The product was packed in boxes of twenty-four and forty-eight units. Early in the 1940's the company had introduced a machine for dispensing single units for consumption at fountains and lunch counters. By 1947 these dispensers were in use in 40 per cent of the stores handling the product and in 70 to 80 per cent of all stores with fountains and lunch counters.

The dispensers, however, had proved troublesome. Especially in humid weather the apparatus clogged, resulting in unsightly, unsanitary, or inoperable dispensers. Soon the company felt it necessary to provide each salesman with a repair kit. On each call the salesman dismantled, cleaned, and reassembled the dispenser.

After the war, the sales department became seriously concerned over the amount of time spent by salesmen on this non-selling activity. No one in the company believed that sales through dispensers should be discontinued, even though they were a small part of total sales. In addition to being excellent advertising, the satisfaction of one trial of the product, the company believed, often developed a steady customer for home use of the product.

As a solution for the problem, Tabor, Inc., introduced early in 1947 a new type of dispenser utilizing a new, special package. By the middle of 1948, 36 per cent of all outlets carrying the product had the new-type dispenser (13 per cent still retained the old-type dispenser).

Before long new difficulties became apparent. The 49 per cent of stores with dispensers reached by mid-1948 proved to be a peak. By late 1950 only 28 per cent had the new-style dispenser, of which one in five was out-of-stock on the special pack-

age designed for use in the new dispenser, and nine per cent still had the old-style dispenser.

FOLLOW-UP PROBLEMS

As the situation developed, the research staff of Tabor became cumulatively more convinced that another dispenser was necessary; but management remained unpersuaded. Well over a year after the first formal report had been circulated among all department heads and other top executives, and despite a total of three special reports on the dispenser problem, no action had been taken.

The research director and staff felt that the methods of presentation and follow-up might have been faulty. Perhaps they had been overconfident about the conclusiveness of the facts. The first report, being comprehensive, may have failed to emphasize the main propositions. Perhaps they had been too aggressive, or not aggressive enough, in relaying their findings and conclusions. Because the first change in dispensers had fared so poorly, it could be expected that management would be cautious about further changes. In summary, the research staff members were reviewing their past actions in order to consider how they might effectively present the facts gathered.

REPORTS SUBMITTED ON DISPENSERS

The first report was submitted in March, 1951. Excerpts and condensations from this report follow.

The Basic Problem is twofold: 1. Our dispensers are in about half the retail outlets with fountains and lunch counters, well below the pre-war level of 70 to 80 per cent. 2. We are showing continued distribution losses, having dropped steadily from a peak of 36 per cent in midsummer of 1948 to our present 25 per cent.

[A table showed the percentage of outlets using old- and new-style dispensers, and totals, since the introduction of the new-style dispenser early in 1947.]

Moreover, a national survey late in 1950 showed that one store in five did not have the special dispensing package in stock. Our records (incomplete) show 27,419 dispensers placed in stores.

Thus, the new dispenser and new package are losing ground. What

are some of the possible reasons for this? (1) *Out-of-stock* occurs because the new package is an incidental extra. When "out-of-stock" occurs, retailers use a regular package. (2) Some retailers object to carrying the *extra* item. (3) *It is very difficult to tell how many units are in the dispenser*. Reorders do not get in the "want book" until too late to prevent running out. (4) The retailer *makes more profit* by using a regular package, the special package listing for \$1.00 and the regular package for 87 cents. (5) Some retailers sell the special package to preferred customers, which, since most retailers order in quarter or half dozen lots, reduces stock rapidly and causes "outs."

In conclusion it would seem that: 1. Perhaps a new type of dispenser using regular packages from stock, on which we net a larger return, could be developed. 2. As a compromise it would be helpful to change the special package dispenser so that the amount remaining in it would be visible at all times. 3. Steps should be taken continuously to remind retailers to keep an adequate stock of the special package at all times.

This report secured the wholehearted support of a regional office; and the letter received in April from this regional office was reproduced and distributed without comment to all those receiving the report.

Early in June, 1952, a second report on dispensers was circulated. Excerpts and condensations follow.

Current data show we now have dispensers in thirty-three per cent of the stores carrying the product (9 per cent with old-style and 24 per cent with new-style dispensers), or about 17,000 stores. For the fourth straight year dispenser usage has shown a loss. (A table presented the annual figures for both styles; another table showed percentage usage by regions and percentage changes for each of the five years beginning just prior to the introduction of the new-style dispenser.)

Only in the Southeast (+140 per cent) and in the Southwest (+133 per cent) has dispenser usage increased. In the five other regions usage is down from 8 to 41 per cent, usage in the United States, as a total, being down 21 per cent. The percentage of sales of the special package is steadily decreasing, from 19.0 per cent in 1949 to 15.3 per cent in 1950 to 12.5 per cent in 1951.

Why is the new dispenser not more successful? There are several reasons: 1. The special package is an item of minor importance to retailers. 2. Retailers make a greater profit on sales at the fountain or lunch counter by using regular stock. Because of larger quantity orders

for regular packages, the average discounts run almost 50 per cent higher than for special packages. The net price per unit is 1.60 cents for the regular and 1.94 cents for the special. 3. When out-of-stock occurs, substitution is easily made with the regular packages. 4. Despite the small size of the average order (one quarter dozen), turnover of the special package is very slow. 5. Inability of fountain help to tell when stock is running low.

How then can dispenser business be regained? By having a new dispenser especially designed for use of regular stock merchandise. This would prevent out-of-stock and re-establish a valuable advertising message at many points. If sold through our own salesmen, it could help build volume orders.

Following this report one executive suggested that the company design a plastic package. The research staff was asked to comment on this suggestion and late in June submitted a memorandum from which excerpts and condensations follow:

The proposed plastic package has merit provided we can substitute it for the present special package. We do not favor adding another package type, unless it is proved by testing in the market that another package would be profitable saleswise. The markup on the proposed package would give us a margin about half as large as that on regular packages.

A substantial saving in production, storage, and handling costs can be realized by eliminating one package. In the past five years, exclusive of storage and handling costs at warehouses, we have invested nearly \$300,000 in dispensers. The new dispenser has not been too successful. Its use has declined for the past four years and only 24 per cent of the stores carrying our product now have the new-style dispenser.

Some of the reasons why the new dispenser has not been successful are: 1. Retailers make a greater profit on sale of regular packages; 2. Retailers object to carrying an extra package; 3. Turnover is very slow; and 4. Fountain and counter help are unable to determine when stock is running low.

It is our opinion that we need a new dispenser for regular-package stock. Our recommendation for adopting the new package was made after considering the following: *Advantages*: utility and simplicity; self-service feature; would occupy front-counter position; visible supply at all times; new display card each time a package is opened; the possibility of a substantial saving by eliminating one package or discontinuing dispensers. *Disadvantages*: pilferage. Also, does the proposed package have equal display value?

ACTION NEEDED

In view of the failure of management to act on these reports, an evaluation of their effectiveness seemed to be called for. This evaluation required consideration of the following questions:

1. Should the reports have included discussions on patent and legal problems, threatened raw material shortages, and inability to replace worn-out dispensers during the war?
2. Should the relative importance of dispensers to other promotional efforts have been assessed in the reports?
3. Had the reports failed to emphasize the main issues?
4. Were the facts available conclusive or had the analysis been faulty?
5. How should the reports have been presented and what other action might have been taken by the research staff?
6. Should further efforts be made now, and, if so, what efforts and why?

Part IX

ORGANIZATION FOR RESEARCH

Two different organizational problems are covered under this heading. One problem is the organization of a staff to work on a particular research project, at the termination of which the staff is disbanded. The second problem is the formation of a presumably permanent research department within a firm which would handle a variety of research problems. In particular, the latter problem raises the question of the place of research within the company as a line function, a staff function, or a combination of both.

Organization for a Particular Project

With either problem, the task of hiring a staff and setting up a going organization is much the same. In hiring people for a particular research project, however, more emphasis can be placed on capability, experience, and knowledge of specialized tasks, and less on permanency and potentialities for advancement. Even in the case of the director of the project, more weight can be placed on technical competence and less on ability to sell one's self and the value of research. Specialization can sometimes be achieved even on a small project by contracting out some of the work to research agencies concentrating on certain operations; for example, tabulating concerns.

Budgeting for a research project is a fine art learned largely through experience. One general rule that can be offered, however, is that it is better to overestimate the costs than to underestimate them, as it can prove very awkward to request additional funds. At the same time, few things are likely to please a client or sponsor as much as to be informed that costs will be less than anticipated and that a refund is in order.

Organization of a Research Department

Irrespective of the place or form of setup, there are, in general, two broad groups of considerations that affect its organizational structure. First, there are external considerations, which in an industrial business or firm focus attention upon the relationship of marketing research activities to those of other operations of a business, such as finance, production, and sales. In a research firm, these considerations pertain to the relationship of the firm to its clients. The second consideration relates to the internal organization of marketing research activities, either in a research agency or in the marketing research department of a business.

Line vs. staff form of organization. A line organization makes it possible to place marketing research under the vice-president in charge of all research activities or under the vice-president in charge of some operating division, usually sales. Such an arrangement maintains direct lines of responsibility from top executives to individual workers. The danger of this form of organization is that the marketing research activities might be slanted toward research in favor of that particular division. This is especially true because the head of a given division may tend to develop his work independently, and to emphasize his own work without proper consideration of other activities which are also necessary functions of the entire enterprise. It also provides some temptation to use research to vindicate present activities rather than to find out what is actually taking place. Thus, an essential quality of good research work, an impartial outlook, may be lost.

The staff organization, also known as the functional organization, enables a high degree of specialization in marketing research activities to be achieved by other divisions of the business. By this means, special knowledge and skills can be exploited within each division as well as outside of it. Thus, when the production department runs into special marketing problems in connection with product development, the marketing research specialists attached to that division can be called upon to help.

A drawback to the staff type of operation is that coordination of activities between marketing research functions and those of other departments may be difficult, and much time may have to be spent in liaison activities. Sometimes lines of authority become confused, and, as a consequence, it may not be clear just who is responsible for research decisions. Since there are more persons involved in planning operations, the time consumed in arriving at a decision may be greater than in the line organization. Finally, one of the by-products of staff organization is the development of specialists to such an extent that an over-all, broad point of view may be lacking. This is an ever-present danger as the marketing research activities of a business become more specialized.

The "line and staff" organization represents a compromise between the two previous forms, seeking to combine the benefits of both. In effect, the line executives are supported by the advice of staff personnel who are added to the main-line activities. Hence, marketing research operations relating to merchandising are placed, for example, as a staff activity under the vice-president in charge of merchandising. The function of the marketing research man and his assistants in this division would be to aid the merchandising executive in formulating policy or in arriving at operating decisions. The actual decisions, however, rest with the merchandising officer. The marketing researcher merely advises; he has no authority beyond that.

The advantages of this type of organization are its flexibility, greater opportunity for making effective use of the abilities and desires of personnel (because of the greater variety of jobs), and better coordination of activities by the line officers.

External considerations for a research agency. The external considerations facing a research agency revolve around the maintenance of goodwill of potential customers and, in particular, of its clients. Building up a reputation for competent work, supplemented by speeches and articles by executives, is about the only way of gaining the goodwill of users of marketing research. Such activities also greatly facilitate the "care and feeding of clients." The latter, however, is a much more

specialized task. Contact with the client is needed throughout the course of a study to insure avoidance of misinterpretations and the meeting of client specifications.

The person in the research agency maintaining this contact varies with the agency's size and scope. In large agencies certain individuals, so-called "client-service men," are assigned to this work on a full-time basis. Theirs is the responsibility of coordinating the clients' wishes with what the agency's research personnel are doing. On large-scale or highly technical studies, however, the research man in charge may also work with the client, since the client-service men are not selected primarily for their technical abilities.

Internal Considerations

Internal organization problems for marketing research are concerned with such matters as the size and scope of organization, allocation of personnel, and space considerations.

The factors determining the size and scope of a marketing research department are numerous and varied. The adjudged importance to the company of marketing research work, the type of company, its financial situation, and the personalities involved all play dominant roles. In the past, companies in consumer goods fields have tended to do more extensive marketing research than those producing and selling industrial goods. Advertising agencies are generally more active in research than other firms of similar sizes, providing it in part as an additional service to their clients. The size of research departments tends to expand rapidly when a company is prosperous and contract sharply when business falls off—the very time research is needed most.

The organization of independent research firms depends largely on the whims of the owners and the type of business available. Some firms attempt to develop a general research agency, accepting all types of business, though often subletting individual stages of a study to specialized agencies. Other firms prefer to remain small and establish a reputation in one particular type of research, either in certain stages of a research operation, such as editing and tabulating, or in certain research

fields, such as product-testing, readership surveys, and so on. Perhaps the outstanding development in recent years among research firms has been the rise of these specialized agencies.

The Cases in This Part

The four cases in this Part are divided equally between organization for a particular project and organization of a research department within a firm. Of the two cases on organization for a particular project, Case 1 relates to a contemplated three-year project on consumer habits of buying life insurance, and Case 2 to a longer-term consumer panel operation within a research firm. In effect, the first case deals with organization for large-scale research for a limited period, whereas the problem in the second case is organization of one particular research program on a presumably permanent basis.

Research for a department store and for a pharmaceutical company are the subject of the two cases (3 and 4) on organization of a research department. These cases are somewhat similar in that both raise questions of function, place, and organization of a research department within a firm. Case 4, however, poses a problem of a somewhat broader nature, since the objective is to integrate economic research with marketing research within the same department.

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- LUCK, D. J., and H. G. WALES. *Marketing Research*. New York: Prentice-Hall, Inc., 1952. Chapter 2 discusses organization of marketing research, with emphasis on the diverse functions of marketing research departments (pp. 27-38) and with a list of considerations entering into the use by a company of outside research firms and consultants (pp. 44-46).
- NATIONAL INDUSTRIAL CONFERENCE BOARD. *Organization for Market Research*. Part I, Studies in Business Policy No. 12, 1945; Part II, Studies in Business Policy No. 19, 1946. Contains very useful information on the organization of marketing research departments based on actual research departments.

Part IX Cases

CASE I—ADMINISTERING A LIFE INSURANCE STUDY

BACKGROUND

In 1952, a study was planned to ascertain consumer buying habits and buying motives for life insurance as well as consumer attitudes toward life insurance. Although a great deal of attention has been given to the selling strategy that life insurance companies develop for their sales representatives, little attention has been given to the basic factors that influence consumers in their purchase of life insurance. If such information could be obtained, it would greatly assist in developing a sound basis for the marketing of life insurance both from the standpoint of personnel selling efforts and from that of advertising programs.

It was proposed that consumer buying habits with regard to life insurance be explored from the viewpoint of units purchased, from whom purchased, and frequency of purchase. Buying motives would be studied in relationship to such factors as old age, disability, and death benefits, tax and estate problems, or reciprocity arrangements between buyers and sellers. While data were collected on these subjects, it was also thought possible to gather data regarding the understanding that consumers have about the types and uses of life insurance as well as their expectations regarding agents' services, the major reasons why people do not buy life insurance, and why they have to be influenced by extreme emotional approaches into buying insurance.

The planners of the research project felt that the selling and advertising policies of life insurance companies were based primarily on the most intelligent guess possible regarding con-

sumer behavior toward life insurance purchasing. For this reason, data relating to consumer buying habits and motives would be useful in formulating the policies of these companies toward their advertising and selling programs, thereby permitting a somewhat more objective approach to be taken to these problems than was currently being followed.

THE PROBLEM

The following statement of objectives provides a more detailed idea of the aims of this project:

1. To study the specific buying habits of consumers in their purchases of life insurance by covering solicited and unsolicited sales of life insurance and relating this to (1) unit size and kind of purchases, (2) type of agent (part-time or full-time, age, business handled, and so on), and (3) period of time between purchases of life insurance and time over which purchases extend; or frequency of purchase.

2. To investigate the buying motives that are given for the purchase of life insurance, such as (1) conservation of personal assets; (2) program aspects of death, old age, and disability, (3) credit, (4) debt liquidation, (5) taxes, and (6) reciprocity between buyer and seller.

3. To determine the relationship between the above buying habits and buying motives with regard to age, occupation, income, marital status, sex, and war service.

4. To study the relationship between consumers' knowledge of types and uses of life insurance with regard to the factors that seem to influence them in their purchase of life insurance. It is of especial interest to determine whether or not agents are giving consumers the information they desire about life insurance and whether or not consumers have confidence in agents.

TYPE OF INFORMATION SOUGHT

Sex

City size

Age

Occupation

Income

Ownership

Amount

Type of insurance

- Per cent of income for insurance
- Form of savings preferred
- Attitude toward buying insurance
- Have adequate life insurance
- Additional insurance desired
- Settlement plans
- Purpose of insurance
- Marital or family status
 - Not married and no dependents
 - Not married with dependents
 - Wife (or husband) and children
 - Wife (or husband) and no children
 - Children—not with wife (or husband)
 - No children—not with wife (or husband)
- Home ownership
 - Attitude toward life insurance agents
 - Bought or been sold
 - Initiated purchase with agent
 - Number of agents calling on consumers
 - Family attitude toward purchase of life insurance
- Method of approach to selling of life insurance
 - Request from consumer by mail
 - Request agent to call
- Attitude toward insurance as an investment
 - Willingness to give complete information to agent
 - Own recent economic experiences
 - Deal with man or woman agent
 - Are savings features valued?
- What information do consumers want about life insurance?
- How long had client known agent from whom insurance was purchased?
- Reasons for purchase of life insurance
 - Help agent
 - On basis of analysis of life insurance made for consumer
- Promotional materials
 - Materials received through mail
 - Materials from insurance agents
 - Are materials helpful?
 - Did materials help select company?
 - Did agent help select company, or yourself?
- Basic consumer knowledge about life insurance

Even though these statements seemed to be workable formulations for the planners of the project, some troublesome problems faced the research workers. For example, it was pointed out to them that respondents would be reluctant to report on

some of the items set forth in the objectives, such as uses for debt liquidation, taxes, and establishing a base for credit. Furthermore, there would be no assurance that the reports of respondents would be accurate unless an actual check could be made, through life insurance companies, of the policies actually held by respondents.

Approximately \$50,000 a year was available for the work over a period of three years. From these funds, it would be necessary to defray the expenses of interviewing and travel expenses connected with the study. Travel would involve a distance of 100 miles a day round trip for the interviewers in reaching the city where the interviews would be conducted. Additional expense would be incurred in going from one sample household to the other. It was estimated that each interview would require about 45 minutes. It was thought necessary to provide a probability sample.

DATA AVAILABLE

The following past studies in this general area were available at the time this study was planned:

Life Insurance Ownership among American Families. Ann Arbor: Survey Research Center, University of Michigan. Published annually 1948-1952.
YOUNG, J. R. *The Life Insurance Buyer in Baton Rouge.* Baton Rouge: Louisiana State University Business Bulletin, XII, No. 2 (October, 1950).

ACTION NEEDED

1. Outline an organization plan for a project of this type.
2. Prepare a tentative budget for its operation, assuming that a director for the project is obtainable at a salary of \$9,000 per year.

CASE 2—SETTING UP A CONSUMER PANEL OPERATION

BACKGROUND

In 1950, the Ames Company launched a continuous national consumer panel operation. The objective of the operation was

to collect data on all consumer expenditures, on radio and TV listenership, and on newspapers and magazines entering the home. With these data, analyses could be carried out on such varied subjects as the characteristics of consumers purchasing specific goods and specific brands, the effect of advertising programs on consumer purchases, and the relative effectiveness of different advertising media.

The data were to be collected by the consumer diary method on a weekly basis. In other words, sample members were to be sent diaries every week containing about twelve or sixteen pages in which they were to list all their purchases during the following week, the purchase of each item being recorded individually under a specific heading containing a place for the date, size, amount spent, brand name, and type of store at which the purchase was made. At the end of the week the family would return that week's diary and begin filling in the new one, which would have arrived several days before. To obtain the cooperation of these families, it was decided that some sort of premium plan would have to be instituted, although nobody seemed sure what sort of plan would best retain the cooperation of the panel members.

The plans called for a mailing sample of some three thousand families scattered over the nation. To handle such a large operation, it was estimated that a staff of between one hundred and one hundred fifty persons would be required. This staff was to be concentrated in one city, for reasons of economy.

THE PROBLEM

The task facing the planners of this operation was to prepare an organization chart for this staff, breaking it up into departments and outlining the function of each department, and to set up a procedure to be followed in processing the diaries and issuing reports. Such reports would be issued on a monthly basis, it was contemplated, with a separate type of report for each client. In addition, special analyses and reports would be prepared when requested by clients.

DATA AVAILABLE

At the time this study was planned, the following published material on panel operations was available:

CHURCHMAN, C. W. (ed.) *Measurement of Consumer Interest*, Philadelphia: University of Pennsylvania Press, 1947.

GAUDET, H., and C. DANIEL. *Radio Listener Panels*. Washington, D. C.: Federal Radio Education Committee, 1941.

LAZARSFELD, P. F., and M. FISKE. "The 'Panel' as a New Tool for Measuring Opinion," *Public Opinion Quarterly*, II (October, 1938), pp. 596-612.

PARTEN, M. *Surveys, Polls and Samples*. New York: Harper & Bros., 1950. Chapter 3.

ACTION NEEDED

The following are needed for organizing this operation:

1. An organization chart showing the division of the staff by departments and other major operational units, as needed. Administrative positions and responsibilities have to be indicated alongside the chart.
2. A flow chart outlining the direction of flow of the work, including rough estimates of the timing.
3. Some sort of premium plan for securing maximum cooperation from the panel members.

CASE 3—ORGANIZING A DEPARTMENT STORE RESEARCH DEPARTMENT

BACKGROUND

A. C. Bertram, Inc., a member store in an Eastern city of one of the department store chains, was considering late in the forties the establishment of a Marketing Research Department. Except for some centralization of buying, the individual stores in the chain were largely autonomous in operations. No branch stores were operated at the time, although A. C. Bertram, Inc., was looking forward to branch operations in the future. The store's volume of sales had been increasing steadily and was now well past \$40 million annually. Profits also were increasing. The store was organized into six major divisions

headed by a secretary and treasurer, a controller, a merchandise manager, a sales promotion manager, a store manager, and a personnel director.

THE PROBLEM

The formation of a research staff or department had been considered several times before and rejected. The executive committee of the store considering the proposal at the present time seemed to agree, however, that the store now was able to afford such a move and that it was desirable at least to try it. Discussion centered primarily on organization issues, particularly the activities of such a department and the executive to whom the research director should be made responsible.

INFORMATION AVAILABLE

The origin of department store research in any formal sense dates back to 1916. Under the sponsorship of the famous Boston merchant, Lincoln Filene, the forerunner of the present Research Division of the Associated Merchandising Corporation (AMC) was then founded. Research departments in stores affiliated with the AMC gradually followed for exchange of information with AMC and for independent operations. Even in the late forties, however, formalized research in the department store field was notably scant. Except in a few chains, few department stores had established separate research staffs with their own directors. The executives of A. C. Bertram, Inc., therefore, had no well-established precedent organizationally, certainly nothing comparable to the divisional plan as formulated by Paul M. Mazur.¹ A prevalent idea, in fact, was that research needs of companies varied so widely that no single organizational plan was feasible.

ACTION RECOMMENDED

In considering the activities, or functions, which might be performed by the proposed marketing research department, a number of points of view developed. Some of the old feeling

¹ P. M. Mazur. *Principles of Organization Applied to Modern Retailing*. (New York: Harper & Bros., 1927).

persisted that most analysis and research were operating problems best left to the various executives and their assistants. For example, the advertising department, under the sales promotion manager, regularly checked sales results of advertised items. Unless this function was carried on within the division, it was argued, the full cooperation of the personnel and even of some executives might be hard to secure. Moreover, this was a daily, repetitive operation based on a system of analysis already established and was not any new or special problem requiring the services of a research department. The counter argument was made that in general a researcher could not, of course, be expected to be wholly unbiased in his fact-finding and recommendations if he was in any way checking the work of a man to whom he was directly responsible. As to possible failure of an executive to utilize what a researcher reported to him, it was argued, any executive was eager for real facts or else he wasn't "worth his salt."

Similar points were made concerning the budgeting and forecasting, expense control, and merchandise statistics operations under the controller. During the discussions, the application of market research to many other aspects of store operations was noted. The personnel and records of the comparison shopping bureau, under the merchandising manager, it was claimed, might be highly useful in checking on customer service problems (customer services were under the province of the personnel director), especially in relation to competitor offerings and their acceptance. A research department also might be asked to study delivery problems and the perennial problem, returned goods (under the store superintendent). Problems involving displays (window, interior, and other), direct mail, store traffic, departmental layouts, store systems, and selling effectiveness, among others, were also suggested by some executives as potential subjects within the province of a research department. It was even proposed that unit control methods and operations (of stock control) were a research problem.

The experience of a store which devoted most of its research staff time to detecting and studying difficulties in weak departments was related. In this regard, however, the store's own

experience with customer analysis was brought up as a point against considering research, particularly the highly statistical type, as a broad merchandising and promotion function. Through the urging of a former controller, the store had once established detailed records for each credit customer on all purchases. This had proved extremely expensive. The principal use to which these records were put was for direct mailings. The records showed, for example, which customers had bought women's shoes, and these were sent mailings at the time of special shoe promotions. No one believed that the results had been worth the expense, and one executive expressed serious doubts that the experiment as conducted was conclusive evidence on the value of customer analysis. Full agreement was expressed that without frequent consultation some researchers were likely to produce broad, interesting, and useless facts.

In particular, the general merchandise manager remarked that all this use of questionnaires and surveys to find out what customers wanted to buy was nonsense. All you had to do was put an article on the counter. The tens of thousands of customers passing it by within a few days would tell you whether they liked it or not by what they bought. The answer would be got quicker, cheaper, and more accurately than by any "highfalutin research." More generally, he felt that retail research differed greatly from research for manufacturers, who were far distant from consumers and interested only in their own brands. Retail customers were always close at hand. An executive could observe them any day by going out on the sales floors. In addition, store records provided all kinds of information to supplement the numerous outside sources: want slips and customer suggestions, unit control records on sales and stocks, unit and dollar transaction data, sales slips, delivery records, complaints, comparison shopping records, NRDGA reports, Federal Reserve Board indices, newspaper studies of the trading area, and so on. There was no need to go out and ask customers more questions, unless, of course, researchers had found a way to answer the only really puzzling question: *Why* people bought what they did the way they did.

Despite these and other avowed limitations and weaknesses

of marketing research, and despite some opposition to some aspects of research in general, the fact that good marketing research could be genuinely useful in some ways to each of the major store divisions was reaffirmed. A proposal was made, therefore, that a decentralized research department be established with operating units in all, or most, of the store divisions. This seemed to have considerable merit as a long-range objective. Some day each division might have separate research bureaus, or there might be one central staff for storewide problems with subsidiary staffs of specialists in the divisions. At present, it was agreed, this would be too expensive, and it was better to learn to walk before trying to run. A staff composed of a director, his assistant, a secretary, and part-time helpers was visualized as a beginning.

The feeling was that the research department should report directly to the president or to one of the major executives. The secretary-treasurer, in particular, was considered a good possible choice. This man was highly regarded in the organization, was known to be extremely favorable to research, and had been one of the most active proponents of the proposed department. In addition, it was considered to be a possible advantage that his division would have probably the least direct need for research studies.

ACTION NEEDED

1. Where should the proposed marketing research department be located? Why?
2. What might the principal functions of the department be? How might projects originate?
3. Should the research director participate in policy formation? If so, how?

CASE 4—A RESEARCH DEPARTMENT FOR A PHARMACEUTICAL COMPANY

BACKGROUND

The Eli Lilly and Company laboratories were founded in 1876 in Indianapolis, Indiana. By 1952 the organization had become one of the major producers in the United States of pharmaceutical and biological products in both the domestic and foreign markets. In maintaining its position of leadership in the drug industry, it had continuously engaged in extensive research work in both the technical aspects of pharmaceutical production and in the marketing and economic aspects.

The marketing operations of Lilly were extensive, its products being sold on a worldwide basis. As a consequence, there was need not only for marketing research, but also for basic economic research. For example, operational data had to be collected on the activities of wholesale druggists, retail druggists, and competitors, for use in studies to determine significant differences in each aspect of drug distribution influenced by the activities of the various types of business just mentioned. In addition, inventory control studies, evaluation of the effects of fair trade legislation, and similar studies had to be made in so far as these factors influenced the operations of retail druggists, wholesalers, competing firms, and the Lilly Company. Many additional marketing problems derived from the company's use of a three-pronged method of distribution—the wholesaler, the retailer, and the physician. The company recognized the wholesaler as the one who acted as a distributor for Lilly products, the retailer as the one who dispensed the products, and the physician as the one who prescribed them. It can be seen, therefore, that the physician was the major link in the chain of distribution and that he had to be kept informed at all times of special drug products.

The sales representative who attempted to convince doctors of the merits of Lilly products was known as a *detail man*. His job was that of selling the merits of the drug products made by

Lilly so that the doctor believed in them sufficiently to use them repeatedly in his daily practice. The detail man not only had to call on doctors, but also had to keep in close touch with pharmacists and wholesale houses to make certain that adequate stocks of Lilly products were being carried to fill the prescriptions that doctors wrote. Whenever possible, a strenuous effort was made to bring new products to the attention of all key individuals—doctors, retail druggists, and wholesalers. This called for information that would be helpful in doing an accurate job of forecasting.

Many other forecasts were required for company operations in addition to those needed for promotional use. The main type of forecasts and related data required were as follows:

1. Forecasts of Eli Lilly:
 - a) Total sales.
 - b) Commodity sales.
 - c) Individual products.
2. Estimates of market for new products.
3. Estimates of stock requirements (Eli Lilly Company) for new products in order to supply market.
4. Surveys providing comparative price levels of Lilly and competitive products.
5. Incidence of disease data.
6. Mortality data on given diseases.
7. Public health data on geographic distribution of diseases and public health services to treat them.

The Lilly Company also had need for industry studies to provide the following information (past and present):

1. Volume of medicinal market:
 - a) Consumed by a given country.
 - b) Produced by a given country.
 - c) Exported and imported by a given country.
2. Channels used by medicinal industry to move products from producer to consumer.
3. Market potentials for Lilly products by geographical areas for use in deploying field manpower and promotional effort effectively.
4. Determination of normal trading areas for wholesale and retail drug trade in each country.

5. Studies of field manpower of Lilly and principal competitors, and adequacy of Lilly field force in a given country.
6. Periodic studies on the adequacy of wholesaler distribution and support given Lilly line in each geographical area.
7. Development of proper frequency for daily calls and town visits standards, and methods for territorial scheduling.

Further information was needed on operations of the company that are of primary concern to management in formulating its policies, namely:

1. Plant location.
2. Annual studies of company performance in scientific research efforts that lead to new products and to creating additional sales volume.
3. Management problems of *interfunctional* interest as assigned or approved (excludes sales forecasts and estimates of market); for example, utilization of production facilities and their expansion.
4. Management problems of *intrafunctional* interest when requested at divisional levels or above (excludes sales forecasts and estimates of market); for example, continuation of research on a product.
5. Periodic reviews of low sales volume products and package sizes (Lilly products) for purposes of deletion.
6. Operational data of competitors, wholesale druggists, and retail druggists for use in comparative studies, pricing studies, inventory control, and similar factors.

Certain information was looked upon as being exclusively in the realm of marketing studies. This information covered the following subjects:

1. Studies to measure and to improve the effectiveness of Lilly promotional efforts through such channels as advertising, house organs, direct mail, and personal sales efforts.
2. Studies on physician and druggist attitudes to company products and policies.
3. Surveys, as needed, on company product need and product acceptance.
4. Surveys indicating the sales position of Lilly products in their respective therapeutic fields and geographical areas.
5. Surveys showing total current consumption of products in given therapeutic fields.

6. Surveys providing comparative price levels of Lilly and competitive products.

THE PROBLEM

Each grouping of the information needed indicated that there would be some overlapping between the classes of data sought. The problem which faced the Lilly Company was, therefore, to work out a plan of internal relationships that would organize the research activities as indicated by the type of information sought. Furthermore, there was an external organization problem that had to be solved so that the economic and marketing research activities could be planned in proper working relationship with other divisions of the company, such as production, technical product research, finance, and sales.

The executive structure of Lilly is found in many types of business operation; namely, a president, executive vice-president, and other officers who perform the customary activities associated with their positions.

ACTION NEEDED

1. Work out an organization chart to show the relationship of economic and marketing research activities to other divisions of the company.
2. How would you organize the economic and marketing research activities within the research division? Show the organizational chart and how groupings of information could be handled from the standpoint of internal management of the division.

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